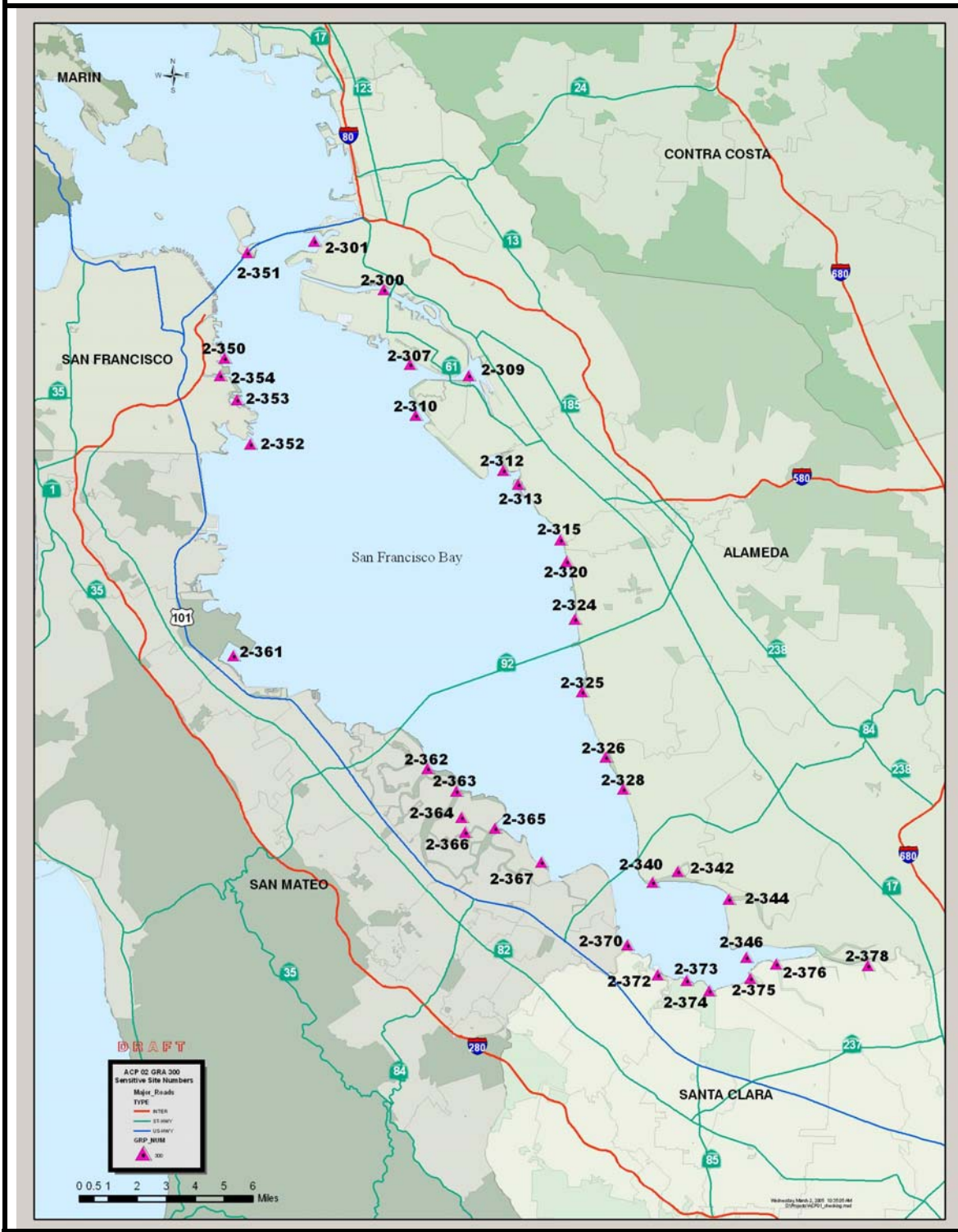
SF Geographic Response Area 3
South Bay
Environmentally Sensitive Sites



Section 9843 – Geographic Response Area 3, South Bay

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Summary of Geographic Response Area (GRA) Response Resources by Site and Sub-Strategy

Site *Site Name*

sub-strategy **PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT**

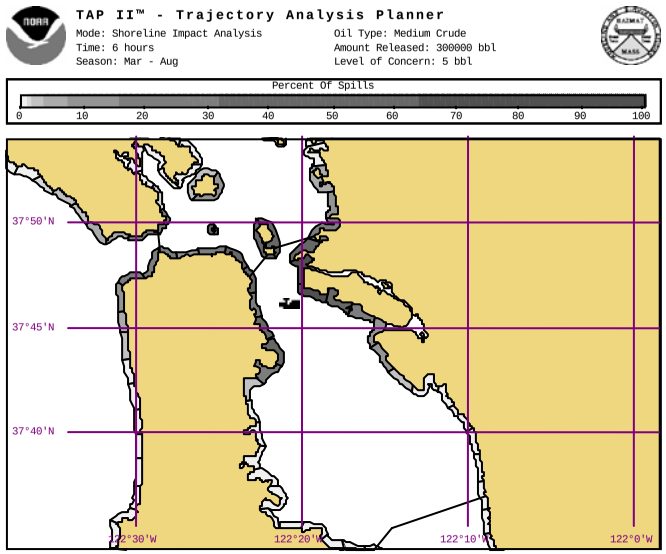
Harbor Boom	Swamp boom	Other boom/TYPE	Sorbant boom	Anchoring No	Anchoring type of gear	Boom boat	Skiff	Skimmer No	Skimmer Type	Special Equipment No	Special Equipment and kinds (and notes)	deploy staff	Staff to tend
2-305	***San Lorenzo Creek to Johnson Landing***												
.1 -	**Exclude oil from entering the marsh. Should oil enter the marsh, contain oil to the smallest possible area of marsh.**												
15000	4500		500	90	90 - 20 # w/ 20' 1/2" chain eac	25	2	3	portable		10,000' 1/2" anchor line, 5 vac trucks,	108	
2-307	***Alameda Eelgrass Beds***												
.1 -	**Assess need for protective booming: Eelgrass is only vulnerable at very low tides when eelgrass tops are exposed to flo**												
												1	
.2 -	**Deflect oil past eelgrass bed and toward collection / protection deployments of San Leandro Bay: 2-309.**												
3000				12	12/22+/danforth	2	0					6	
2-309	***San Leandro Bay***												
.1 -	**Exclusion/deflection to shoreside collection at Bay Farm Island Bridge.**												
1200	300	250 TBB	200	5	5/22+/daforth & chain	2	1	1	portable		Bboat: very shallow draft	39	
.2 -	**Deflection away from Elsie Romer Bird Sanctuary to collection in the San Leandro Channel.**												
1500				4	4/22+/danforth	2	1	1	sps			8	
.3 -	**Exclude oil from entering the bay via Oakland Estuary.**												
3000			100	10	10/22+/danforth & chain	2	1	1	SPS or				
2-310	***Bay Farm Island Eelgrass Beds***												
.1 -	**deflection boom from the runway point to divert oil borne on currents past cove.**												
1000				6	6/22#+ danforths/ 15'+ chain	1	1					4	
.2 -	**Maximize oil capture at this locale with deflection to shore skimming unit.**												
2000	2000			9	9/22#+/danforth & chain + stak	2	2	1	portable			8	
2-312	***Oyster Bay Marshes***												
.1 -	**Exclude oil from entering the marshes. Should oil enter the marshes, contain oil to the smallest possible area**												
	850	0	0	6	2/12#+ danforths +4/ stakes	0	2					4	
.2 -	**Exclude oil from salt marsh at the southern end of Oyster Bay Regional Shoreline.**												
2000	0	0	0	6	22# danforths	1	2					6	
.3 -	**Oil Recovery by skimming**												
0	0	0	0	0		0	0	3	SSS	3	vac trucks		
2-315	***San Lorenzo Creek, Bunker and North Marshes***												
.1 -	**Exclude oil from entering the bay diked marshes and tidal channels. Should oil enter the marsh or channels contain oil t**												
600	950	0	300	8	20#	0	2	0			stakes	8	
.2 -	**Exclude oil from entering the bay front cordgrass marsh. Should oil enter the marsh contain oil to the smallest possible**												
3000	0	0		16	20# w/20' 1/2" chain each	0	4				stakes	12	
.3 -	**Oil Recovery by skimming**												
0	0	0	0	0		0	0			2	SSS/vac truck		
2-320	***Oro Loma Marshes***												
.1 -	**Exclude oil from entering the Oro Loma Marsh and Frank's Dump Marsh. Should oil enter the marsh, contain oil to the s**												
1800	0	100 OS	200	11	22#+ w/20' 1/2" chain each		4			1	1000' 1/2" anchor line	14	5
.2 -	**Exclude oil from entering Frank's Dump Marsh, East/West. Should oil enter the marsh, contain oil to the smallest possib**												
200	0	0	0	2	20# w/20' 1/2" chain each	0	1			1	1000' 1/2" anchor line,	4	5
.3 -	**Exclude oil from entering Triangle Marsh and West Winton Channel. Protect bayfront pickleweed marsh. Should oil ente**												
2000	0	0	0	6	20# w/20' 1/2" chain each	0	4	0		1	1000' 1/2" anchor line,	12	5
.4 -	**Oil Recovery by skimming**												
0	0	0	0	0		0	0	2	SSS	0			
2-324	***Cogswell, Hayward, and HARD Marshes***												
.1 -	**Exclude oil from entering Cogswell, Hayward and HARD marshes. Should oil enter the marshes, contain oil to the smalle**												
2600	1000	0	0	0	9/22+ & 14/12+ danforth	2	4	0		0	bboat: shallow, strandable, stakes	14	2
.2 -	**Exclude oil from entering interior of Cogswell Marshes. Should oil enter the marshes, contain oil to the smallest possibl**												
1400	0	0	0	0	6/22+ danforths & 8/12+ danfo	1	2	0		0	bboat: shallow, strandable. Stakes	6	
.3 -	**Exclude oil from Johnson's Landing marshes**												
1000	0	0	0	0	4/22+danforths & 6/12+ danfor	0	2	0		0	bboat: shallow, strandable. Stakes	6	
2-325	***Eden Landing Ecological Reserve -Alameda Crk***												
.1 -	**Primary: Exclude oil from entry channels by booming and closing tide gates at bay front.**												
2400			1600	17	7-22#+& 10-15#+/20'1/2"chain	2	1					7	
.2 -	**Protective booming of Whale's Tail Marsh and pocket marsh south of HWY 92 toll plaza.**												
11300	0	0	10000	25	22#+ danforth and chain	4	3	0		0		23	
.3 -	**Collection - develop or enhance skimming at mouth of old Alameda Creek when substantial oil is present.**												
300	50	0	50	5	15#+ danforths	0	1	1	SSS	1	storage tank	3	2
.4 -	**For inland spills from upstream Old Alameda Creek, collect oil at east creek crossing.**												
0	500	0	0	10	4 12#+ anchors + 6 stakes	0	0	1	SSS	0			

Site	Site Name	sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT																
			Harbor Boom	Swamp boom	Other boom/TYPE		Sorbant boom	Anchoring No	Anchoring type of gear	Boom boat	Skiff	Skimmer No	Skimmer Type	Special Equipment No	Special Equipment and kinds	(and notes)	deploy staff	Staff to tend
2-326	***Coyote Hills Slough Marshes***																	
.1	-	**Primary: Exclusion booming when oil threat is from bay.**																
				2700			500	17	2 22#+ & 5 12#+ danfth & 10 st	1	2						10	
.2	-	**Backup primary bay exclusion: secondary layer of exclusion booming for oil threat from bay under windy conditions or m**																
				2700				7	2 22#+ & 5 12#+ danft & heavy	1	2						7	
.3	-	**Skimming operations at this site. Natural skim pocket with access just south of mouth.**																
				600	100	OS	400	12	2 12#+ danfth & 10 stakes		1	1	SSS	2	stroage tank or vac truck, light.		3	2
.4	-	**Inland oil threats: exclusion, deflection, collection.**																
				700	100	OS	700	15	5 12#+ danfth & 10 stakes		1	1	SSS	2	storage tank or Vac Truck, lights		3	2
2-328	***Ideal and USFWS N-5 Marshes***																	
.1	-	**Deflection booming. Deployment of this strategy should be followed by strategy 2 or 3, as time and resources permit.**																
			2000		50	OS	100	6	20#w/20'1/2"chain each	1	2				stakes			
.2	-	**Exclude oil from entering Ideal Marsh. Should oil enter the marsh, contain oil to the smallest possible area of the marsh.**																
			6500	1000	0		0	22	20# w/20' 1/2" chain each	0	6	0			stakes			
.3	-	**Oil Recovery by Shoreside skimming**																
			0	0	0		0	0		0	0	0	vos	0				
2-340	***Dumbarton Point Marsh/Mudflat***																	
.1	-	**Exclude oil from entering marsh front, mudflat, and small channels to the marsh interior.**																
			0	2000						2	3						10	
.2	-	**Deflection Booming**																
			3000					20	20-25#w/10'chain each	3	1						11	
.3	-	**Protection booming of shoreline**																
			0				8000			5	3				Sand bags, shovels, 2,000' 3/8" line		18	
2-342	***Newark/Plummer Creek***																	
.1	-	**Exclusion/Diversion boom to prevent oil from entering channel between bay and site.**																
			8000	1000			5000	40	40-25#w/10'chain each	14	4	1			hovercraft		18	
2-344	***Mowry Slough***																	
.1	-	**Deflect oil from marshes to be recovered on-water by skimmers. Prevent oil from entering the slough.**																
			1000	10000				50	50-25#w/10'chain each	4	3	1	self pro		hovercraft		18	
2-346	***Coyote Creek***																	
.1	-	**Deflect oil away from marshes, keep oil in deep water channel & skim**																
			8000	200				30	many large	8	3	3	SPS				30	
.2	-	**exclusion of mouths of small tidal channels to inner marshes.**																
			0	400			400	25	many + stakes	1	1						8	
.3	-	**Protective booming of windward shores to prevent oil from being carried into marshes by wave and tidal action**																
			0	4000	4000	SN												
2-350	***San Francisco Southerly Collection/Economic Sites***																	
.1	-	**Economic Objective: Exclude from intaks pier 72 - stop oil from entering the p plnt coling water intak.**																
			1000					3	22#+	1	1						8	
.2	-	**Deflection to Collection for shoreside skimming**																
			600	0	0		100	0		1	1	1	SSS	0			5	
2-351	***Yerba Buena Island***																	
.1	-	**Protective booming of beach and rocks used by seals.**																
			3000					7	7/25# w/ 20' 1/2" chain	3	1			1	3000' 1/2" anchor line		11	
2-352	***South Basin, Hunters Point***																	
.1	-	**Exclusion/protection booming to prevent oil from reaching marsh in South Basin or beaches at Candlestick Point.**																
			3500					5	5 / 22+/ Danforth with chain	3	0	2	SFS/SSS		*shallow draft Bboat		15	
.2	-	**Deflect oil away and past site.**																
			500					2	2/22+/danforth	1	0				*shallow water Bboat		3	
2-353	***Heron's Head Park - India Basin***																	
.1	-	**Exclude oil from entering small tidal inlets to inner ponds and lagoons.**																
			0	200			80		stakes								2	
.2	-	**Deflect when oil is likely to enter India Basin, such as easterly winds, deflect oil away from site to south shore. Protect e**																
			2500					4	4/22+/danforths & stakes	4	1						12	
2-354	***Islais Creek - Pier 94 Saltmarsh***																	
.1	-	**Exclude oil from entering inlet and protect site from oil.**																
			1000	50			50	3	3/22+/danforths & stakes	1	1						3	
2-361	***Airport Mudflat***																	
.1	-	**Exclude oil from entering slough openings and cove.**																
			8200					35	35/20-40/danforth w chain	4	4				4 shallow draft boomboats		28	

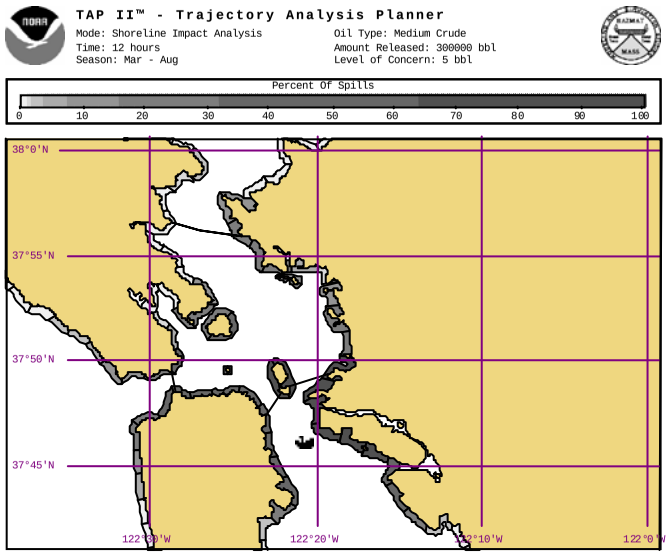
Site	Site Name	sub-strategy	PREVENTION OBJECTIVE OR CONDITION FOR DEPLOYMENT														
			Harbor Boom	Swamp boom	Other boom/TYPE	Sorbant boom	Anchoring No	Anchoring type of gear	Boom boat	Skiff	Skimmer No	Skimmer Type	Special Equipment No	Special Equipment and kinds (and notes)	deploy staff	Staff to tend
2-362	***Belmont Slough***															
		.1 -	**Exclude oil fom entering Belmont Slough.**													
			4000		200 TBB		18	18/40/ Danforht	3	0	1	SPS			14	
		.2 -	**Protective booming of bayfront tidal marsh**													
			6000				35	35/22+/Danforth	2	3					16	
2-363	***Steinberger Slough***															
		.1 -	**Exclude oil from entering/leaving Steinberger Slough**													
			3500		500 TBB		16	16/22+/danforth & chain	2	1	1	SPS		Bboat: very shallow draft	13	
2-364	***Bair Island***															
		.1 -	**Exclude oil from entering Bair Island: close openings to interior.**													
			0	200		200	3	3/22+/danforth c chain	1	1				very shallow Bboat	5	
		.2 -	**Protective booming of exposed marsh frontage.**													
			0		4000 TBB		17	17/22+/danforth c chain & line	2	1				Very shallow water Bboat		
2-365	***Redwood Creek***															
		.1 -	**Deflect past, Deflect to collection, Protective boom shoreline.**													
			3000	8000	4000 TBB	2000	50	35/22+ & 15/40+/danforth w ch	6	3	1	sfs		very shallow Bboats	28	
2-366	***Corkscrew Slough***															
		.1 -	**Exclude oil from entering Slough.**													
			0	2000		2000	15	15 / 22+/ Danforth w chain & st	2	0				very shallow Bboats	5	
2-367	***Greco Island/Ravenswood Slough***															
		.1 -	**exclude oil from entering various sloughs, protective booming of bay frontage.**													
			8000	2000	10000 TBB	2000	60	60/22+/danforths & stakes	6	10	0			very shallow Bboats	40	
2-370	***Palo Alto Marsh***															
		.1 -	**Exclude oil from entering the entrances to Palo Alto Marsh and San Francisquito Creek, if time to impact does not permit**													
			500	500		500			1	3					9	
		.2 -	**Protective booming of marsh front to keep oil from impacting marsh and mudflats.**													
			10000	1000		1000	60	50-60 / 22#+/danforths	6	3				shallow draft bombast	38	
2-372	***Charleston and Mayfield Sloughs***															
		.1 -	**Deflect oil away from marshes to skimmers.**													
			2500			500	7	7/25#/danforth	2	1	2	SSS		Shallow draft Bboats & skiffs	13	
		.2 -	**Exclude oil from entering Charleston Slough**													
			0	1200		1200	5	5/25+/danforths	1	1						
		.3 -	**Close all tide gates and salt pond intake structures to exclude oil from expanding to inner marshes and impoundments.**													
			0												2	
2-373	***Mountain View Slough***															
		.1 -	**Exclude oil from entering Slough and small marsh channels.**													
			0	1500		4000	12	12/22+/danforth c chain; stake	0	2				hovercraft or air boat may be necessary	7	
		.2 -	**Shore line protection booming.**													
			0		2000		4	4/22+/danforth ; stakes	0	2				hovercraft or airboats may be necessary	8	
2-374	***Stevens Creek***															
		.1 -	**Exclude oil from entering the creek. Deflect oil down-coast.**													
			0	400		800	8	anchors & stakes	0	2					4	
		.2 -	**Protective booming of marsh front**													
			0		7000 SN	7000										
2-375	***Guadalupe Slough***															
		.1 -	**Exclude oil from entering Guadalupe Slough and adjacent marshes.**													
			2500	7500					2	2	2	SPS or S			32	
		.2 -	**Protective booming of bayfrontage marshes from oiling and oil intrusion.**													
			0	1000					0	2					8	
2-376	***Alviso Slough***															
		.1 -	**Collection booming to prevent oil from entering Alviso Slough.**													
			1000	2000		2000	10	Anchors and stakes	0	2	2	SFS			9	
		.2 -	**Deflect oil past slough and keep oil in Coyote Creek for skimming.**													
			0								1	SFS				
		.3 -	**Protective booming of marsh front near mouth.**													
			0													
2-378	***Mallard Slough***															
		.1 -	**Excludion booming at mouth Coyote Creek. Collect oil at Coyote Creek/Alviso Slough.**													
			3500				9	9/22+/danforth	2	2	1	SPS			14	

PROBABILITY OF OIL REACHING EACH SITE STRATEGY IN GRA 3

GRA 3 – Anchorage 9



6 hours from start of spill

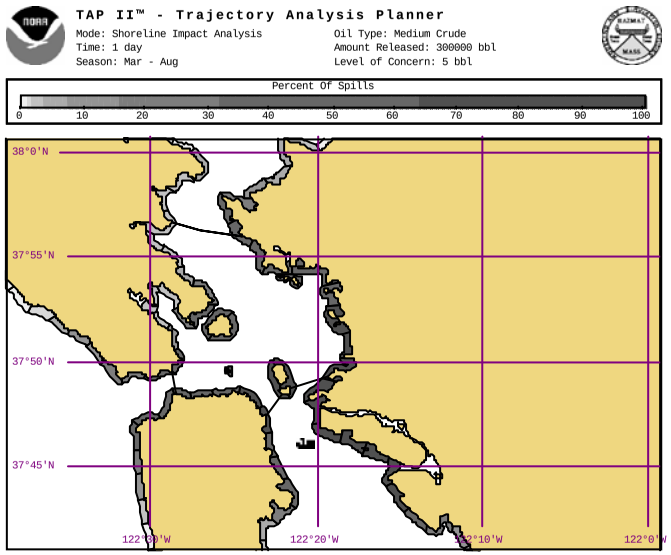


12 hours from start of spill

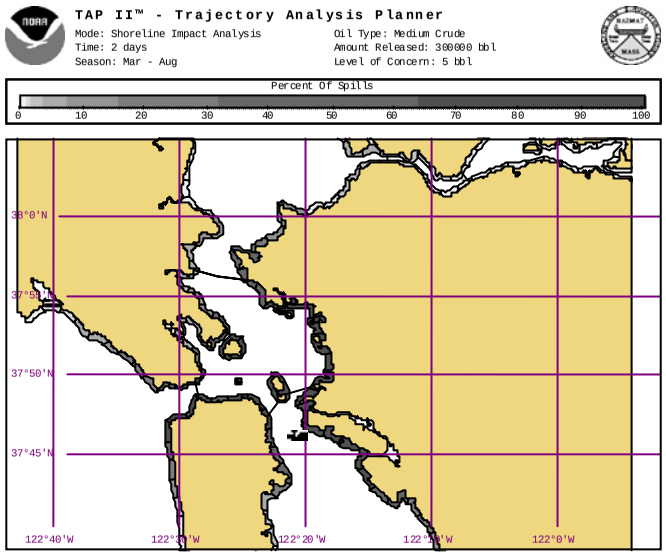
TAP II Maps for GRA3 Scenario: Spill of 300,000 bbls of crude at Anchorage 9 in the Spring. The shades of grey at each impacted site correspond to a percentage in the legend of the number of spill scenarios (from 500 runs of various wind, tides and currents) that brought more than 5 bbls (= Level Of Concern) of oil to that site in the specified time frame (6 hours or 12 hours).

PROBABILITY OF OIL REACHING EACH SITE STRATEGY IN GRA 3

GRA 3 – Anchorage 9



24 hours from start of spill



48 hours from start of spill

TAP II Maps for GRA3 Scenario: Spill of 300,000 bbls of crude at Anchorage 9 in the Spring. The shades of grey at each impacted site correspond to a percentage in the legend of the number of spill scenarios (from 500 runs of various wind, tides and currents) that brought more than 5 bbls (= Level Of Concern) of oil to that site in the specified time frame (24 hours or 48 hours).

Table of percent of spills that bring oil (>5 bbls) to each site from the GRA 3 scenario (Anchorage 9).

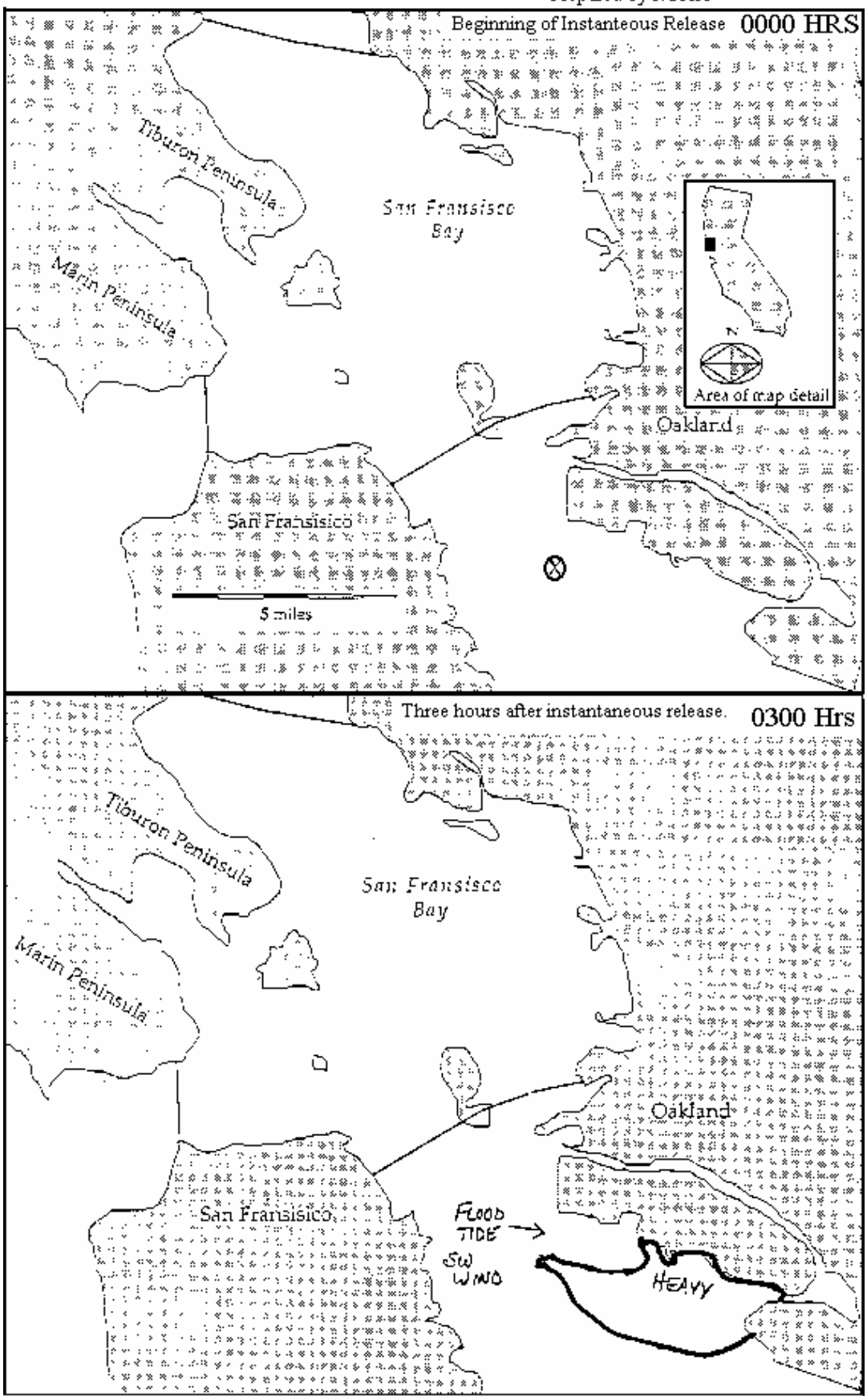
ACP SITE#	ES	SITENAME	LAT W (Deg. Min.)	LONG W (Deg. Min.)	6 HOURS (% prob)	12 HOURS (% prob)	24 HOURS (% prob)
2-351	B/A	Yerba Buena Island	37 48	122 22	62	86	95
2-353	A	Heron's Head Park - India Basin	37 44.3	122 22.5	47	54	58
2-354	A	Islais Creek - Pier 94 Saltmarsh	37 44.3	122 22.5	46	54	56
2-400	C	San Francisco Waterfront	37 46	122 23	45	61	69
2-402	B	Alcatraz Island	37 50	122 25	38	56	76
2-307	C/A	Alameda Eelgrass Beds	37 45	122 16	35	79	95
2-402	B	Alcatraz Island	37 50	122 25	35	53	75
2-495	A	Emeryville Lagoon/Mudflats	37 50	122 29	27	66	86
2-352	B	South Basin, Hunters Point	37 43	122 23	24	27	29
2-236	C	Pt. Doable to Lime Point	37 49	122 30	22	32	55
2-401	B	Pier 39	37 48	122 22	19	40	57
2-244	A	Land's End	37 47	122 30	19	28	51
2-246	A	Cliff House and Seal Rocks	37 47	122 31	15	23	44
2-309	A	San Leandro Bay	37 45	122 13	12	51	82
2-423	C	Angel Island	37 54	122 27	12	34	60
2-310	C/A	Bay Farm Island Eelgrass Beds	37 44	122 15.5	11	36	64
2-490	A	Berkeley Eelgrass Beds	37 51	122 19	8.6	29	73
2-234	C	Point Bonita and Bonita Cove	37 49	122 31	7.6	16	26
2-228	A	Rodeo Lagoon	37 50	122 32	6	12	22
2-231	A	Bird Island	37 49	122 32	6	12	22
2-248	A	Ocean Beach/Fort Funston	37 45	122 30	4.6	12	23
2-312 to 2-324	A	Oyster Bay Marshes to Cogswell, Hayward, and HARD Marshes	37 29	122 02	0.4	3.6	21
2-422	B	Keil Cove	37 55	122 27	0.04	15	24
2-421	C	Paradise Cove & Tiburon Peninsula	37 54	122 27	0.01	22	37
2-420	A	Richardson Bay Marshes	36 56	122 30	0.01	4.6	10
2-420	A	Richardson Bay Marshes	36 56	122 30	0.01	19	29
2-480	A	Albany Marsh	37 54	122 19		9.4	53
2-453	A	Brook's Island	37 54	122 21.5		21	55
2-455	C	Santa Fe Channel	37 55	122 22		17	48
2-451	A	Castro Rocks	37 50	122 24		17	43

2-452	A	Richmond Eelgrass Beds	37 58	122 24		15	37
2-424	B	Paradise Cay Eelgrass & Marina	37 54	122 27		15	24
2-501	A	Castro Creek and Marshes	37 58	122 24		11	28
2-454	A	Richmond Inner Harbor/Hoffman Marsh	37 54.5	122 20		4.4	38
2-506	A	San Pablo Bay Eelgrass Bed	37 59	122 25		2.8	6.8
2-551	A	McNear's Beach Marshes	38 00	122 27		2.8	6.8
2-427	A	Marin Islands	37 58	122 28		1.6	3.6
2-502	A	San Pablo Creek Marshes	37 58.5	122 23			4.2
2-503	A	Pinole Pt. Marshes-South	37 59	122 21.6			4
2-504	A	Pinole Pt. Marshes - North	38 05	122 21			2.6
2-425	A	Corte Madera Marshes	38 56	122 30			1.8
2-426	A	San Rafael Creek Marsh	37 58	122 29			1.8
2-583	A	Napa River Marshes	38 12	122 19			0.4
2-250	A	Thornton Beach State Park	37 42	122 30			0.2

Anchorage No. 9 Spill Scenario Map

12,000 Barrels of Alaska North Slope Crude

Use Only as a General Reference.
Oil may move beyond map boundaries.
Prepared by NOAA



Anchorage No. 9 Spill Scenario Map

12,000 Barrels of Alaska North Slope Crude

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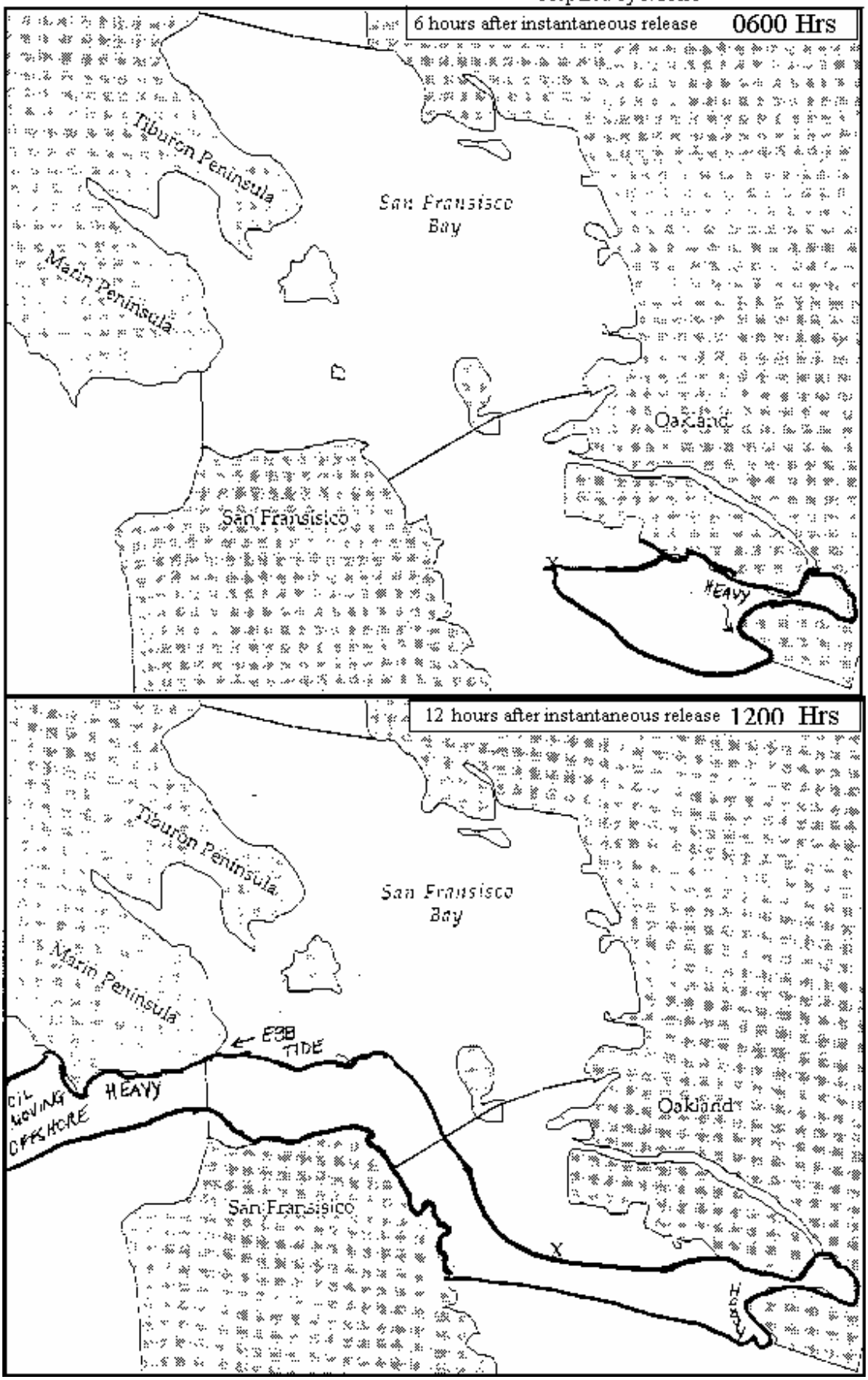
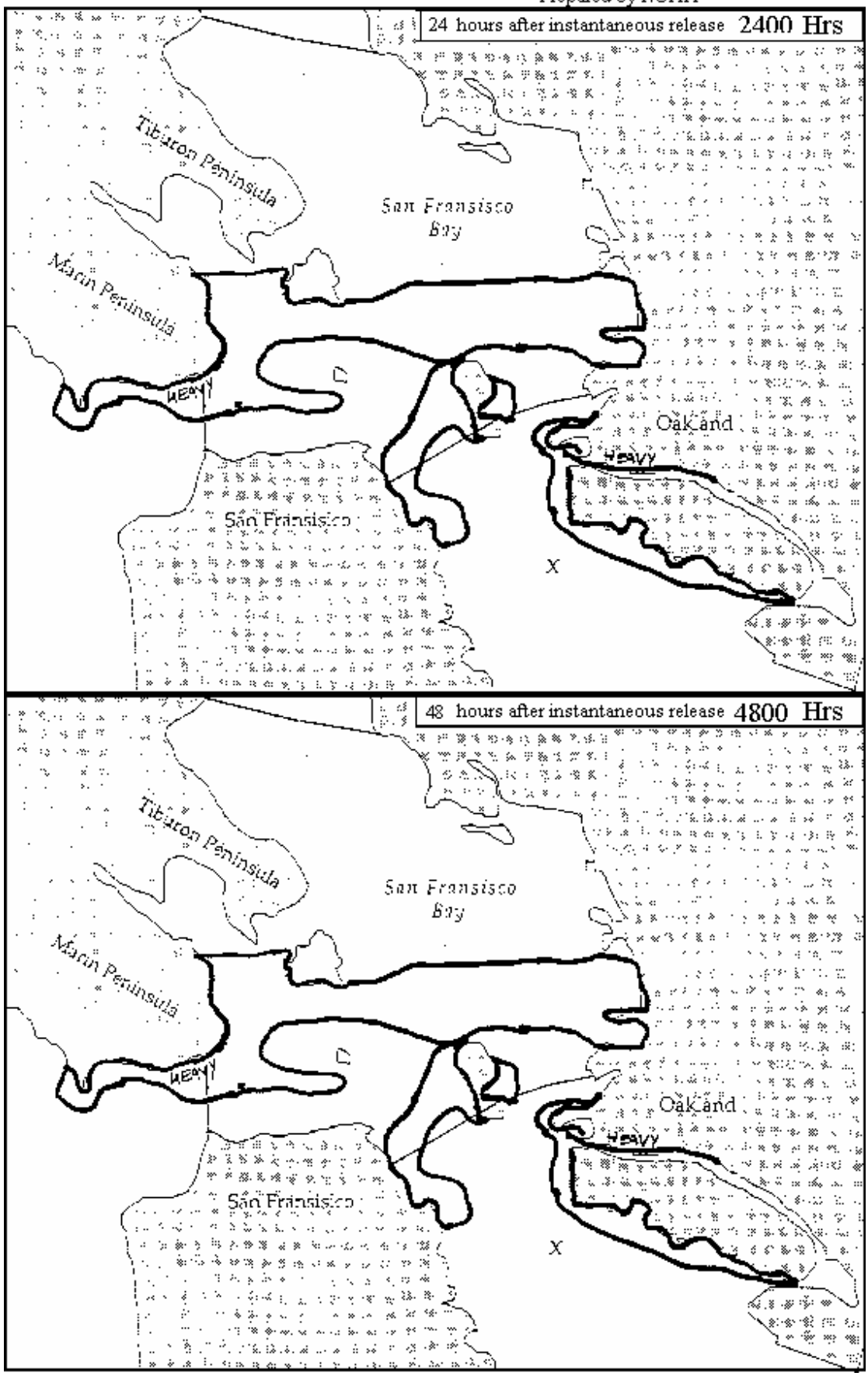
Oil may move beyond map boundaries.
Prepared by NOAA



Anchorage No. 9 Spill Scenario Map

12,000 Barrels of Alaska North Slope Crude

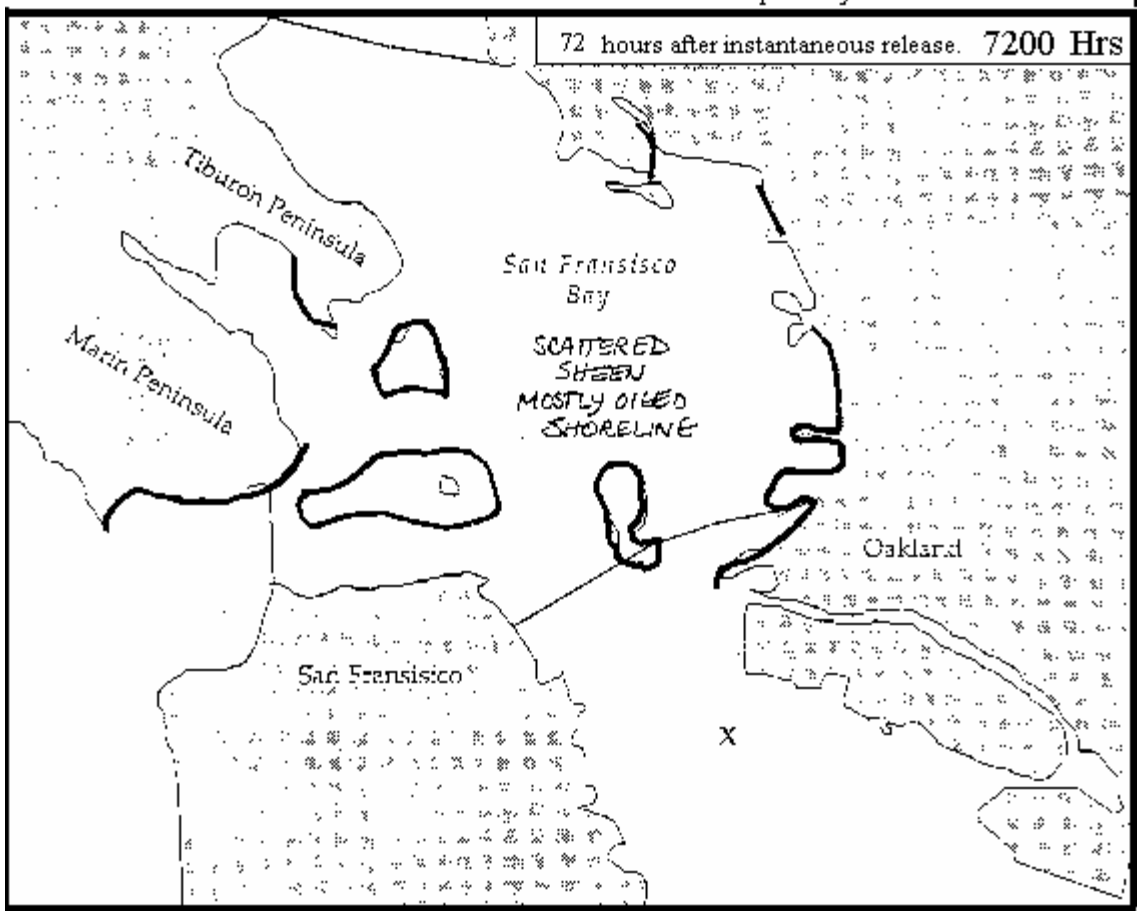
Use Only as a General Reference.
Oil may move beyond map boundaries.
Prepared by NOAA



Anchorage No. 9 Spill Scenario Map

12,000 Barrels of Alaska North Slope Crude

Use Only as a General Reference.
Oil may move beyond map boundaries.
Prepared by NOAA



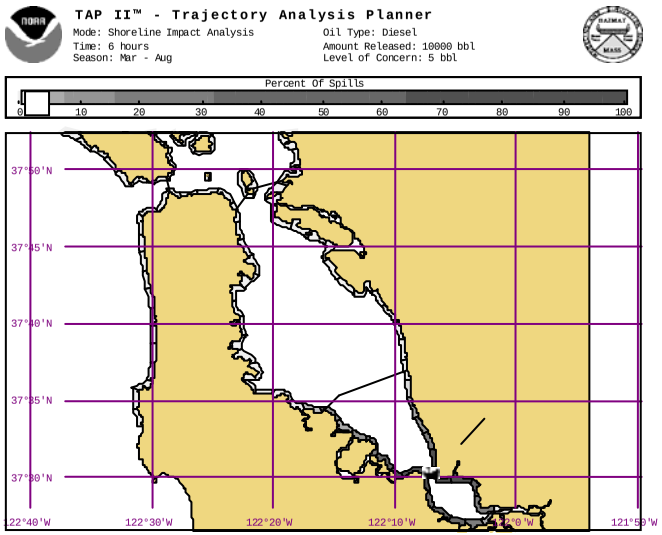
RESPONSE PRIORITIES FOR ANCHORAGE 9 SCENARIO* GRA 3

TIDE AND WIND AT TIME OF INSTANEOUS DISCHARGE	TIME PERIOD OILED (HOURS)	PRIORITY	SITE ID 2005	SITE ID 1998	SITE DESCRIPTION
WINTER SCENARIO	0.00	1			Spill Site
Containment					
12,000 bbl ANS Crude	0.00	2			On-Water
Recovery					
Max flood	0-3	3	307	302	Alameda
Eelgrass Beds					
Wind: 20+ kts. SW to W	3-6	4	309	303	San Leandro Bay
Runoff Unknown	6-12	5	352	352	South Basin,
Hunters Point					
	6-12	6	401	401	Pier 39
	6-12	7	402	402	Alcatraz Island
	6-12	8	236	151	Point Diablo to
Lime Pt.					
	6-12	9	234	150	Point Bonita and
Cove					
	6-12	10	231	149	Bird Island
	6-12	11	228	148	Rodeo Lagoon
	12-24	12	351	351	Yerba Buena
Island					
	12-24	13	495	458	Emeryville
Lagoon/Mudflats					
	12-24	14	490	457	Berkely Eelgrass
Beds					
	24-48	15	225	147	Redwood
Creek/Big Lagoon/					
					Muir Beach
	24-48	16	420	420	Richardson Bay
Marshes					
	24-48	17	480	456	Albany Marsh
	24-48	18	454	454	Richmond Inner
Harbor/					
					Hoffman Marsh
	24-48	19	453	453	Brooks Island

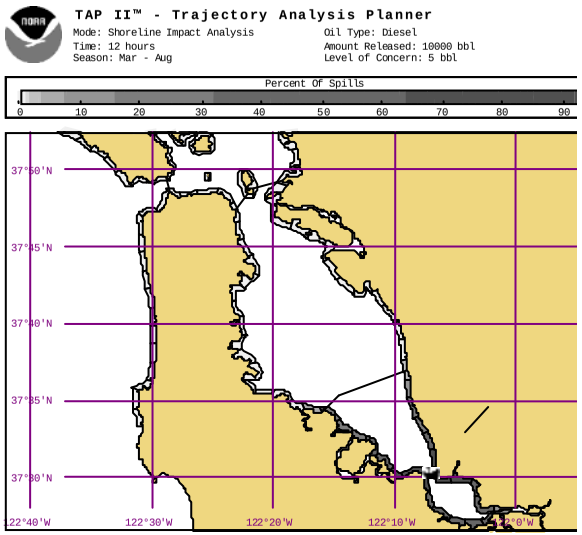
* Based on the 1995 ACP trajectory

PROBABILITY OF OIL REACHING EACH SITE STRATEGY IN GRA 3

GRA 3 – Dumbarton Bridge



6 hours from start of spill

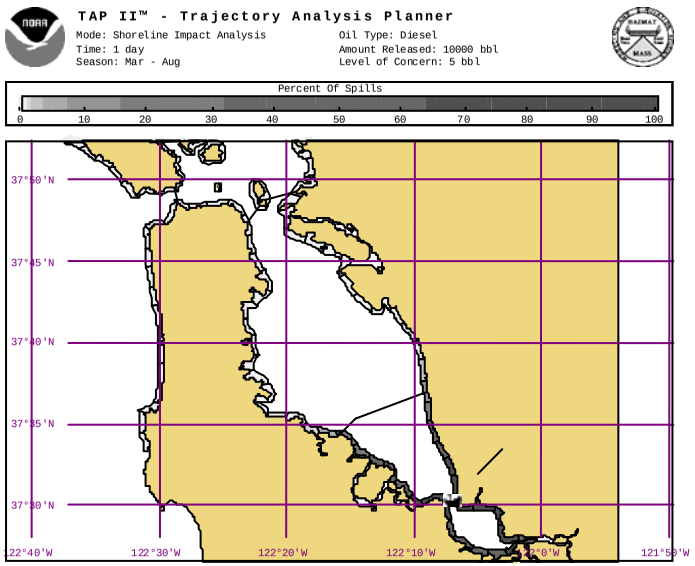


12 hours from start of spill

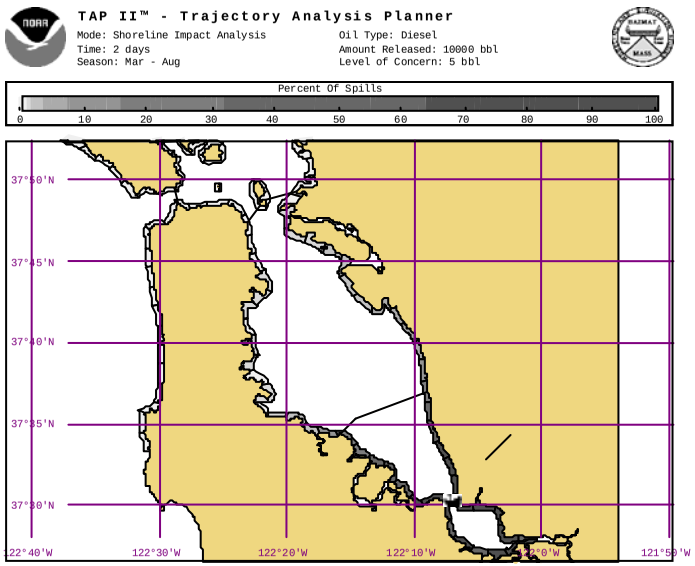
TAP II Maps for GRA3 Scenario: Spill of 10,000 bbls of diesel at the Dumbarton Bridge in the Spring. Arrow Indicates spill origin. The shades of grey at each impacted site correspond to a percentage in the legend of the number of spill scenarios (from 500 runs of various wind, tides and currents) that brought more than 5 bbls (= Level Of Concern) of oil to that site in the specified time frame (6 hours or 12 hours).

PROBABILITY OF OIL REACHING EACH SITE STRATEGY IN GRA 3

GRA 3 - Dumbarton Bridge



24 hours from start of spill



48 hours from start of spill

TAP II Maps for GRA3 Scenario: Spill of 10,000 bbls of diesel at the Dumbarton Bridge in the Spring. Arrow indicates spill origin. The shades of grey at each impacted site correspond to a percentage in the legend of the number of spill scenarios (from 500 runs of various wind, tides and currents) that brought more than 5 bbls (= Level Of Concern) of oil to that site in the specified time frame (24 hours or 48 hours).

Table of percent of spills that bring oil (> 5bbls) to each site from the GRA 3 scenario (Dumbarton Bridge).

ACP SITE#	ES	SITENAME	LAT N (Deg. Min.)	LONG W (Deg. Min.)	6 HOURS (% prob)	12 HOURS (% prob)	24 HOURS (% prob)
2-367	A	Greco Island/Ravenswood Slough	37 31	122 12	100	100	100
2-340	A	Dumbarton Point Marsh/Mudflat	37 30	122 06	95	100	100
2-326	A	Coyote Hills Slough – Alameda Flood Control Channel	37 29	122 02	80	92	95
2-342	A	Newark/Plummer Creek	37 30	122 05	60	78	90
2-325	A	Eden Landing Ecological Reserve – Alameda Creek	37 29	122 02	35	58	80
2-370	A	Palo Alto Marsh	37 28	122 06	35	49	55
2-372	A	Charleston and Mayfield Sloughs	37 27	122 05	35	49	55
2-344	A	Mowry Slough	37 29	122 02	34	59	83
2-364	A	Bair Island	37 32	122 14	31	45	56
2-366	A	Corkscrew Slough	37 31	122 14	31	45	56
2-346	A	Coyote Creek	37 28	122 02	27	55	84
2-373	A	Mountain View Slough	37 27	122 05	22	37	47
2-363	A	Steinberger Slough	37 32	122 14	14	25	25
2-362	A	Belmont Slough	37 33	122 15	9.6	17	25
2-374	A	Stevens Creek	37 27	122 04	5.6	30	48
2-375	A	Guadalupe Slough	37 27	122 02	2.4	25	53
2-376	A	Alviso Slough	37 27	122 01	0.05	13	40
2-378	A	Mallard Slough	37 27	121 58	0.05	13	40

Thomas Guide Location	Latitude N	Longitude W
	3 7 45	122 16

County: Alameda

USGS Quad: Oakland West

NOAA Chart: 18649/18650 Entrance to SF Bay

Last Page Update : 10/1/2002

SITE DESCRIPTION:

The bed extends from near the entrance to Ballena Bay to the southerly extension of Park Street in Alameda. The eelgrass beds south of the island of Alameda total about 30 acres. The densest portion of the bed is near Ballena Bay and becomes more sparse along a sand bar running to the east about 150 yards off shore. The beds are in 8 to 10 feet of water and would not necessarily be exposed to oil on all low low tides.

SEASONAL and SPECIAL RESOURCE CONCERNS

This eelgrass bed has A-level protection priority when exposed. Herring spawning in eelgrass November through April.

RESOURCES OF PRIMARY CONCERN

Oil readily sticks to eelgrass. The beds are an important spawning substrate for herring from November through April, and eelgrass is the sole food source for black brant during this time.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B	Deborah Bartens	Baylands Nature Preserve	(415) 329-2506
B	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
B	Baylands Nature Preserve Office	Baylands Nature Preserve	(650) 329-2506
L	EBRP Dispatch EBRP	East Bay Regional Park District	(510) 881-1833
B/T	Mike Josselyn	NOAA, National Marine Fisheries Service	(415) 454-8868
B/T	Diane Watters	CA Dept. of Fish & Game	(650) 631-2535

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Alameda	18649/18650 Entrance to SF Bay	3 7 45	122 16

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is that oil will readily stick to any eelgrass blades which come in contact with the oil. The oil is disruptive to the eelgrass and would be damaging to any herring eggs spawned during the herring spawning season November to April. The strategy is to deflect the oil past this area to currents leading to collection setup to the east in San Leandro Channel.

HAZARDS and RESTRICTIONS:

Water is relatively shallow.

SITE STRATEGIES

Strategy 2-307.1 **Objective: Assess need for protective booming: Eelgrass is only vulnerable at very low tides when eelgrass tops are exposed to floating oil.** ACP DATE 10/1/2005

Biological staff must assess this site to determine if eelgrass is at risk. Because this bed is fairly deep, eelgrass tops are rarely, if ever, exposed to floating oil, and then only at very low tides. Oil readily sticks to floating eelgrass tops, and once eelgrass gets fouled with oil, oil becomes a subsurface threat to fish and other organisms which thrive in this cover. Scientific staff must review tidal information to see if minus tides less than -0.5 may result in eelgrass exposure, and must conduct on-site evaluation as necessary. Any booming recommendations should be expedited though ICS to operations.

Strategy 2-307.2 **Objective: Deflect oil past eelgrass bed and toward collection / protection deployments of San Leandro Bay: 2-309.** ACP DATE 10/1/2005

Cascade 3000 ft of deflection boom from the mouth of Ballena Bay at a southeasterly angle to direct oil past the eelgrass beds and the southern side of Alameda Island toward the San Leandro channel.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-307.1												1	
2-307.2	3000				12	12/22+/danforth	2	0				6	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

This site is accessible only by water. The beds are about 200 yards from Alameda Marina mouth. To drive to the nearest beach, follow the signs to Alameda from I-880. Exit on Webster and continue to the terminus of Webster at Crown Beach: right (west) on Central to 4th Street to Ballena Bay and Ballena Isle Marina or left to 8th Street which becomes Shore Line Drive. The bed extends from near the entrance to Ballena Bay to the southerly extension of Park Street in Alameda.

LAND ACCESS: ready access to the nearby shoreline

WATER LOGISTICS: None known
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Public launching at the end of Lincoln off of Central. Docking available at Ballena Isle Marina just to the west.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

The nearby Ballena Isle Marina is the most convenient boat facility to support this operation. Crown Beach (EBRP) may be useful for staging. The Alameda Ferry Slip on Bay Farm Island to the south is also a good site to stage boom and support equipment. Also, San Leandro Harbor, just south of the Oakland Airport is a small boat harbor accommodating 500 boats with a minimum of 15 guest slips. The channel leading into the harbor is dredged and has a controlling depth of 5-6 ft. It is marked by day beacons and two lights, and the northernmost light has a fog signal. There is a yacht club and the Harbor Master's office is on the southwest side.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-307 Site Name: ALAMEDA EELGRASS BEDS
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:22/JUN/05

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	Alameda		3 7 45	122 13
USGS Quad:	Oakland E.,Hntrs Point,San Leandro	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site includes all of San Leandro Bay and the San Leandro Channel, including Elsie Roemer Bird Sanctuary located at the southeast end of Crown Beach on Alameda, west of the Alameda-Bay Farm Island Bridge. This shallow bay between Alameda and Bay Farm Islands has extensive mudflats and well developed saltmarsh, including the 50-acre Arrowhead Marsh at the south end. The west and south margins are part of San Leandro Bay Regional Shoreline - EBRP. The Oakland Estuary feeds into the north end, and San Leandro Channel feeds in from the west. San Leandro Creek empties to the bay at its southeast corner. The Airport Marina is along the southwest margin.

SEASONAL and SPECIAL RESOURCE CONCERNS

The saltmarshes, mudflats, and bird sanctuary are an "A" priority all year. Several Special Status Species including the endangered California clapper rail, the endangered salt marsh harvest mouse, and rare sensitive plants are present in the 50-acre Arrowhead Marsh.

RESOURCES OF PRIMARY CONCERN

The main habitat of concern is the 50-acre Arrowhead Marsh. There are also cordgrass marshes along the margins. There are extensive mudflats. The gravelly substrate along the southwest margin supports extensive cockle beds. All these habitats are very sensitive to oiling and cleanup is very impractical.

All of the marshes, mudflats, and shallow water areas within San Leandro Bay are habitat for waterfowl, wading birds, and shorebirds, and the Elsie Roemer Bird Sanctuary is located at the southeast end of Crown Beach on Alameda, west of the Alameda-Bay Farm Island Bridge. The endangered California clapper rail breeds here. Brown pelican and least tern forage here.

The endangered saltmarsh harvest mouse also populates these marshes.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
ELO	EBRP Dispatch EBRP	East Bay Regional Park District	(510) 881-1833

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Alameda	18649/18650 Entrance to SF Bay	3 7 45	122 13

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The main concerns are the very sensitive marshes and mudflats here, which are almost impossible to cleanup. The intention is to prevent oil from entering the marshes by diverting it to collection sites on the north shore of Bay Farm Island near the bridge. Avoid disturbing or trampling marsh vegetation and don't trample oil into the mud.

HAZARDS and RESTRICTIONS:

Beware of shallows.

SITE STRATEGIES

Strategy 2-309.1 Objective: Exclusion/deflection to shoreside collection at Bay Farm Island Bridge.

ACP DATE 7/1/1997

Deploy deflection boom across San Leandro Channel using both intertidal barrier boom and harbor boom to move oil to collection areas and exclude oil from San Leandro Bay marshes.

Flood tide - Using 1200 ft. of harbor boom and 250 ft of intertidal barrier boom (or swamp boom) connected together, place boom across channel at approximately a 45 deg. Angle. Place intertidal barrier boom on north side of channel across mudflat, extending harbor boom across channel to form a collection pocket on south side of channel at inlet next to the Alameda/Bay Farm Island bridge.

Ebb Tide:- If little to no oil is inside San Leandro Bay; flood tide harbor boom can remain in place. If strong currents exist the boom may be opened, using the boom to line the marshes on either side of the channel, allowing oil to move out of the bay. If a significant amount of oil is present inside the bay; leave existing flood tide harbor boom in place, collect oil on the north bank.

A secondary line of defense in the San Leandro Channel may be required. This could involve sorbent boom behind harbor boom or additional harbor boom and skimmers working near the bridge. Specific equipment requirements will be determined based on oil, current, and weather conditions during the incident.

Strategy 2-309.2 Objective: Deflection away from Elsie Romer Bird Sanctuary to collection in the San Leandro Channel.

ACP DATE 7/1/1997

Deploy 1500 ft of harbor boom from the Park St. jetty on Alameda. Depending on weather and spill conditions, this boom can be used to either deflect oil away from the marsh east of jetty and into channel, or to deflect oil to the sandy beach into a collection area. SPS skimmer in San Leandro Channel may be replaced by portable skimming head operated from shore with vac truck or other shore storage.

Strategy 2-309.3 Objective: Exclude oil from entering the bay via Oakland Estuary.

ACP DATE 7/1/1997

Protective measures on the north channel (Oakland Estuary) entrance to San Leandro Bay may also be necessary depending on the size and location of the spill. Spills in SF Bay should be confronted in the Oakland Inner Harbor to prevent oiling of the inner harbor and San Leandro Bay. Spills in the harbor should be confronted in the Park Street Bridge Reach. Currents in the Park St. Bridge Reach are very fast. Specific strategies have not been developed for these locations, although extensive use and deployment of several thousand feet of harbor boom, boom boats, skimmers and vacuum trucks may be required. Diagonal booming will be necessary to move oil out of swift water to slower shoreside collection pockets and eddies.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-309.1	1200	300	250 TBB	200	5	5/22+/daforth & chain	2	1	1	portable	Bboat: very shallow draft	39	
2-309.2	1500				4	4/22+/danforth	2	1	1	sps		8	
2-309.3	3000			100	10	10/22+/danforth & chain	2	1	1	SPS or			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By vehicle, exit I-880 at Hegenberger Rd and proceed bayward (toward airport). Turn right (north) on Doolittle Dr (Hwy 61) which runs along the west side of San Leandro Bay and crosses the San Leandro Channel. By boat, from the tip of Alameda Island, the bay is at the east end of the Island and may be approached via the Oakland Estuary or, preferably on the south side of the island, via the San Leandro Channel. This site includes all of San Leandro Bay and the San Leandro Channel, including Elsie Roemer Bird Sanctuary located at the southeast end of Crown Beach on Alameda, west of the Alameda-Bay Farm Island Bridge.

LAND ACCESS: Good on west shore.

WATER LOGISTICS: Exceedingly shallow.
Limitations: depth, obstruction

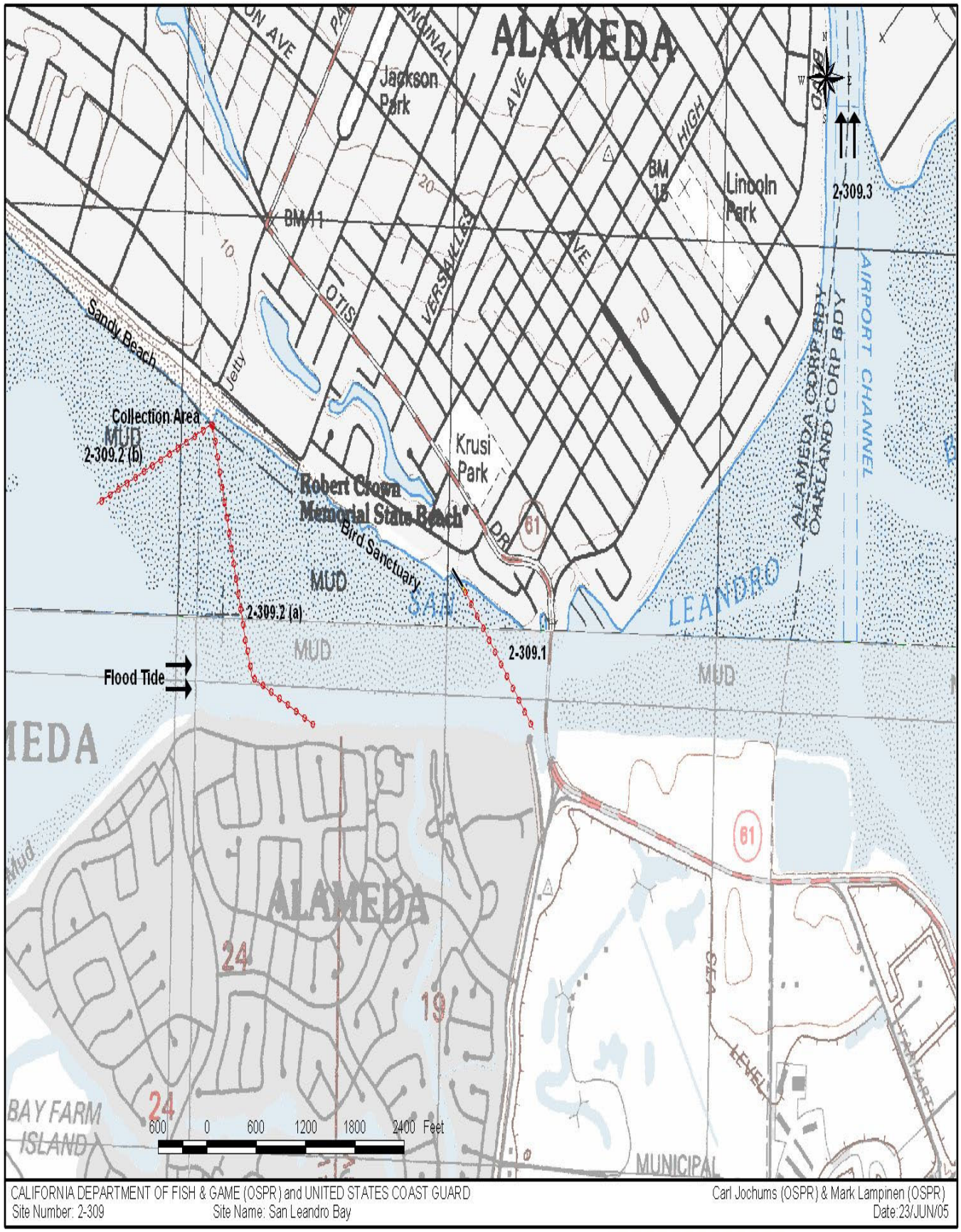
Launching, Loading, Docking and Services Available: There are launches in Oakland Estuary and at the southwest of Alameda Island at the end of Lincoln St. All services in Oakland Estuary.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Good staging at the foot of Alameda-Bay Farm Island Bridge. Also at Crown Park, San Leandro Regional Shoreline, and Bay Farm Ferry Landing. Field Post at USCG, Alameda. Foss Environmental HQ is at the west end of Alameda.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-309 Site Name: San Leandro Bay

Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:23/JUN/05

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-310 -C/A Site Summary- Bay Farm Island Eelgrass Beds

2-310 -C/A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**		3 7 44	122 15.5
USGS Quad:	**Hunters Point / San Leandro**	NOAA Chart:	**18649/18650 Entrance to SF Bay**	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site extends from the tip of Bay Farm Island at San Leandro Channel (ferry landing) to the next point south. This reach is a shallow cove with a rip-rap margin and shallow water of up to 15' deep. It is a natural collection area for debris. The eelgrass beds begin about 50 ft off shore and are about 200 yards long.

SEASONAL and SPECIAL RESOURCE CONCERN

This eelgrass bed has A-level protection priority when exposed. Herring spawning in eelgrass from November though April.

RESOURCES OF PRIMARY CONCERN

The shallow cove is habitat for eelgrass and all associated species. Oil readily sticks to eelgrass. Eelgrass is a favored substrate for herring spawning November through April. It is also the sole food source for black brant during this same period.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. For specific information on historic or cultural resources in this area, contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-2494).

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
ELBO	City of Alameda, Parks	Alameda, City of, Dept. of Parks and Recreation	(510) 748-4565
EL	City of Alameda, PD	Alameda, City of, Police/non emergency	(510) 748-4508
B	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
TB	Mike Josselyn	NOAA, National Marine Fisheries Service	(415) 454-8868
B	National Marine Fisheries Office	NOAA, National Marine Fisheries Service	(415) 435-3149
TB	Diane Watters	CA Dept. of Fish & Game	(650) 631-2535

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Alameda	18649/18650 Entrance to SF Bay	3 7 44	122 15.5

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is oiling of eelgrass and its impacts on wildlife. This is a natural collection area for flotsam and can function as an effective oil collection site. Oil may become imbedded in the riprap.

HAZARDS and RESTRICTIONS:

Riprap poses slip, trip and fall hazards. Vessels beware of shallows at margins.

SITE STRATEGIES

Strategy 2-310.1 **Objective: Assess need for protective booming: Eelgrass is only vulnerable at very low tides when eelgrass tops are exposed to floating oil.** ACP DATE 10/1/2005

Biological staff must assess this site to determine if eelgrass is at risk. Because this bed is fairly deep, eelgrass tops are rarely exposed to floating oil, and then only at very low tides. Oil readily sticks to floating eelgrass tops, and once eelgrass gets fouled with oil, oil becomes a subsurface threat to fish and other organisms which thrive in this cover. Scientific staff must review tidal information to see if minus tides may result in eelgrass exposure, and must conduct on-site evaluation as necessary. Any booming recommendations should be expedited though ICS to operations.

Strategy 2-310.2 **Objective: deflection boom from the runway point to divert oil borne on currents past cove.** ACP DATE 9/1/1998

This strategy is most appropriate if very low tides are likely to expose eelgrass. Deploy 1000 ft of harbor boom from the point at the end of the runway parallel to the shoreline to deflect oil past the pocket of the cove. This strategy will require heavy anchoring since current is very strong (2+knt at point); previous deployment attempts have failed if not properly anchored.

Strategy 2-310.3 **Objective: Maximize oil capture at this locale with deflection to shore skimming unit.** ACP DATE 9/1/1998

a) Ebb Tide: deploy 1000'8X8+ Hboom at an angle to direct oil to shore about 200'south of ferry landing. Complete with a lined capture and hold pocket (2000'4X4+Hboom). Line shore with 4X4+ and/or sorbent boom to keep oil from imbedding in riprap. Deploy additional 1000 ft Hboom to cascade oil into collection.

B) Flood Tide: skimmer and collection booms will need to be positioned in the pocket of the cove to effect recovery.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-310.1												1	
2-310.2	1000				6	6/22#+ danforths/ 15'+ chain	1	1				4	
2-310.3	2000	2000			9	9/22#+/danforth & chain + stakes	2	2	1	SSS		8	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Land access is from I-880: exit at High St, continue south (left) on Doolittle across San Leandro Bay and then continue right (west) on Mecartney Rd bay front, Shoreline Park. By water the site is about a mile southeast from the marina at Robert Crown State Beach. This site extends from the tip of Bay Farm Island at San Leandro Channel (ferry landing) to the next point south.

LAND ACCESS: All.

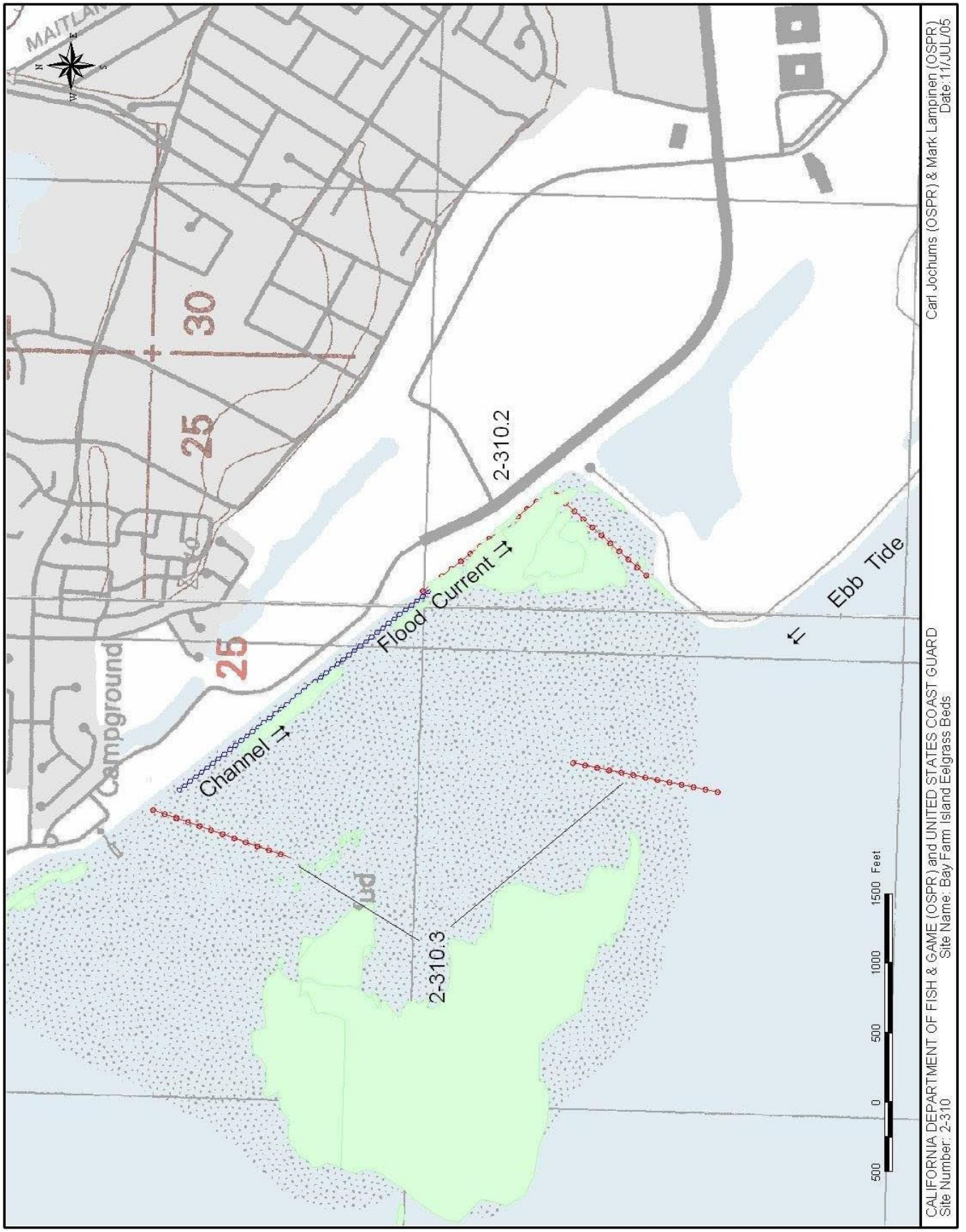
WATER LOGISTICS:
Limitations: depth, obstruction — Beware of shallows at margins.
Launching, Loading, Docking and Services Available: — Launch and moorage across at Ballena Isle Marina, Alameda.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Shoreline Park and Crown Beach can provide local field support and deployment sites. EBRP facilities at Crown Beach, Alameda may serve well as a field post.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-312 -A Site Summary- Oyster Bay Marshes

2-312 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**	AAA Fremont - N	37 .71	122..19
USGS Quad:	**San Leandro**	NOAA Chart: **San Francisco Bay, Southern Part**		

Last Page Update : 7/1/2005

SITE DESCRIPTION:

The site is made up of wetlands at Oyster Bay Regional Shoreline located along the east side of San Francisco Bay, bounded to the northwest by Oakland International Airport, to the east by the San Leandro Davis Street Waste Transfer Station, and to the southwest by San Francisco Bay. The site consists of 4 acres of emergent marsh bordering the Oyster Bay Regional Shoreline to the north and 5 acres of tidally influenced marsh located along the southeast portion of the shoreline.

The marsh in the northern portion of the site occurs on both side sides of the drainage channel and consists primarily of cordgrass. Access should be made through Davis St. gate managed by EBRPD. Acces is restricted on the north side of the channel (Oakland Airport property).

The marsh along the southeast portion of the shoreline is bordered to the east by private industrial facilities, and to the south by a mudflat cove where shorebirds are present.

The shallow mudflats in the vicinity of Oyster Bay Regional Shoreline, which provide habitat for numerous shorebirds, may make access for deployment of large boom sections problematic at low tide.

SEASONAL and SPECIAL RESOURCE CONCERNS

The site is an "A" priority all year.

RESOURCES OF PRIMARY CONCERN

The endangered salt marsh harvest mouse, California least tern, and the California clapper rail are known to occur in the general area. The area is used by migratory waterfowl.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites may be nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880), for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Mark Taylor	East Bay Regional Park District	(510) 783-1066

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA Fremont - N Alameda	San Francisco Bay, Southern Part	37 .71	122..19

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Should oil enter the marsh, expect injury and death of marsh vegetation, small mammals, shorebirds and waterfowl. Avoid trampling marsh vegetation and trampling oil into mud.

HAZARDS and RESTRICTIONS:

Shallow water, seas to 3 feet. Soft mud.

SITE STRATEGIES

Boom can be delivered to shore. Site is immediately adjacent to streets and marina. Area is exposed at low tide.

Strategy 2-312.1 **Objective: Exclude oil from entering the marshes. Should oil enter the marshes, contain oil to the smallest possible area**

ACP DATE 10/1/2005

a. Deploy 600 ft of swamp boom having a minimum freeboard of 4 inches and a minimum draft of 4 inches in the tidal channel on the north side of Oyster Bay Regional Shoreline. Deliver the boom by truck. A john boat and 4 people will be needed to deploy the boom. Access is through the Davis Street Waste Transfer Station. A skimmer and portable storage device may be located here if significant quantities of oil can be accumulated. b). Deploy 250 ft of swamp boom across the mouth of the salt marsh at the southeast corner of Oyster Bay Regional Shoreline. Stakes must be used to keep boom in place. Water is very shallow at low tides. Access is through East Bay Regional Park gate at the northern-most end of Neptune Drive.

Strategy 2-312.2 **Objective: Exclude oil from salt marsh at the southern end of Oyster Bay Regional Shoreline.**

ACP DATE 10/1/2005

Deploy 2,000 ft. of harbor boom from the southern most point of Oyster Bay Regional Shoreline to Mulford Landing near the intersection of Marina Blvd. and North Dike Rd. One boom boat, two john boats and 6 people will be needed at this site. Angle of boom may be altered to take advantage of wind. Divert oil to an accessible shoreline. A portable skimmer and a vac truck will be needed to recover oil as it accumulates.

Strategy 2-312.3 **Objective: Oil Recovery by skimming**

ACP DATE 10/1/2005

If product accumulates as a result of strategies .1 and/or .2, deploy skimmers and vac truck to recover product.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-312.1		850	0	0	6	2/12#+ danforths +4/ stakes	0	2					4	
2-312.2	2000	0	0	0	6	22# danforths	1	2					6	
2-312.3	0	0	0	0	0		0	0	3	SSS	3	vac trucks		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Highway S 880 to Alameda/San Jose. Take Davis Street exit. Proceed west on Davis St., access through the Davis Street Waste Transfer Station. To San Leandro Marina: Take Highway 880 to San Leandro. Take Marina Blvd. exit. Go west on Marina Blvd. to San Leandro Marina.

West bank access can be made through the East Bay Regional Parks trail located on Neptune Drive, just south of the Davis Street Waste Transfer Station. Alternate access to the marsh inlet may be made through Paradise Mechanical, Inc. located at 2600 Williams Drive.

LAND ACCESS: Access for trucks on well maintained, graveled levee roads.

WATER LOGISTICS: Shallow draft vessels <3'.
Limitations: depth, obstruction

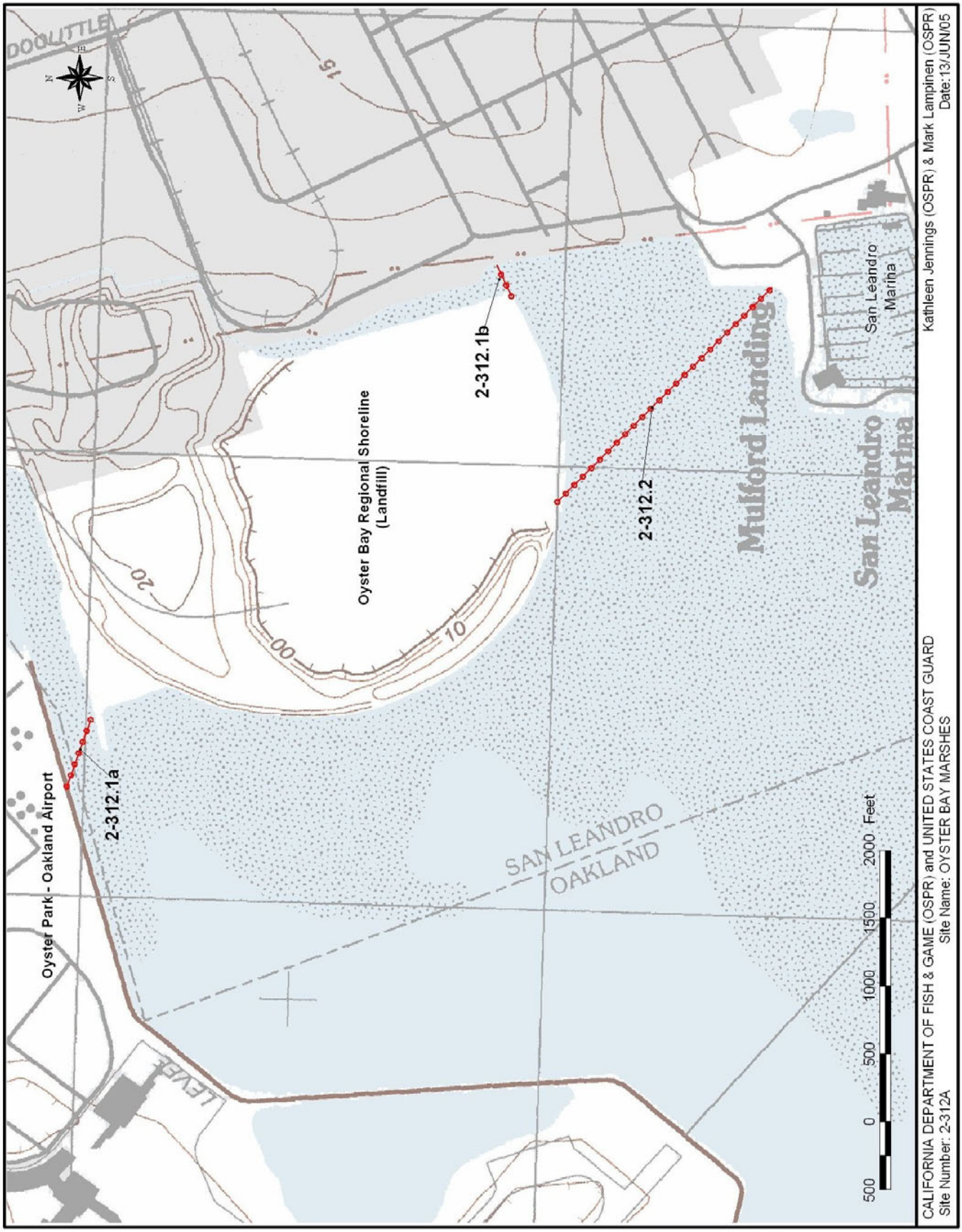
Launching, Loading, Docking and Services Available: Boat launching available at San Leandro Marina. Small skiffs may be launched from levees.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

This is all part of East Bay Regional Park's Hayward Shoreline. A small staging area and access is available at the shoreline office at the west end of W. Winton Ave. Access is also available at the west end of Breakwater Ave. adjacent to Highway 92.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


DOOLITTLE
15
20
00
10
2-312.1b
2-312.2
2-312.1a
Oyster Bay Regional Shoreline
(Landfill)
Oyster Park - Oakland Airport
Mulford Landing
San Leandro Marina
San Leandro Marina
SAN LEANDRO
OAKLAND
LEVEE
2000 Feet
1500
1000
500
0
500
Kathleen Jennings (OSPR) & Mark Lampinen (OSPR)
Date:13/JUN/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: OYSTER BAY MARSHES
Site Number: 2-312A
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

Site Summary- San Lorenzo Creek, Bunker and North Marshes

2-315 -A

County:

USGS Quad: **San Leandro**

Thomas Guide Location: AAA Fremont - N Alameda

Latitude N: 37 29.0

Longitude W: 122 02.0

NOAA Chart: **San Francisco Bay, Southern Part**

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This large contiguous section of bay front marshes, diked marshes and tidal channels/creeks (~150 acres) is located along the east side of San Francisco Bay in San Leanandro. The site covers approximately 2.25 miles of shoreline and is bounded on the north by Estudillo Canal and on the south by Bockman Channel at the Oro Loma Sanitary Waste Facility. San Francisco Bay is west of the site and the railroad on the east limits the upstream extent of San Lorenzo Creek.

The shoreline consists of rip rapped levees; a small segment of sand beach outboard of Bunker Marsh; a 3/4 mile long bayfront cordgrass marsh in the southern part of the site; and four separate tidal channels with vegetated banks. At the northern-most portion of the site is Estudillo Canal Estudillo Canal is dammed approx. 100 yds upstream by a bridge with 12 large (48") culverts with flap gates to prevent bay water from moving upstream. Two small unnamed saltmarshes are present adjacent to the golf course, yet contained by levees. The smaller northern marsh is connected to the bay via a culvert with a flap gate. The gate prevents bay water from flowing into the marsh. The larger marsh is fully tidal, connected to the bay via a 24" culvert with no gate structures. However, there are concrete risers located on the inboard and outboard ends of the culvert with slots for weir boards.

North and Bunker marshes are diked with riprap levee shorelines. North Marsh (94 acres) is bounded by levees but open to the bay via a gate structure of 4 x 48" culverts with grates on either end and screw gates on each. The bayfront cordgrass marsh (28 acres) is exposed to the bay and fronted by a wide tidal mudflat. The largest channel is the San Lorenzo Creek in the middle portion of the site. It's banks are lined by a wide band of marsh vegetation (>75ft) and extend upstream to the railroad tracks (1/2 mile). A tidal slough extends to the north off the mouth of San Lorenzo Creek and cuts through the bayfront marsh. This slough extends northward to Bunker Marsh (26 acres) and other marshes controlled by the City of San Leandro (e.g. Bunker, East, North, and Citation Marshes). The Bunker Marsh levee has an open breach at the south end at this slough. On the south end of the site is Bockman Channel, a narrow and short (<1/2 mile) channel lined on both banks with marsh vegetation (<20ft).

SEASONAL and SPECIAL RESOURCE CONCERNS

The site is an "A" priority all year.

RESOURCES OF PRIMARY CONCERN

Extensive cordgrass marshes and mudflat habitats are present along the entire site. Cordgrass and pickleweed marshes are located closer to the levees, along the banks of the various channels, and interior to the levees of the Bunker and North Marshes.

The endangered California clapper rail and threatened California black rail forage and nest in the bayfront and interior marshes. The marshes and nearshore waters over the mudflats are heavily used by migratory waterfowl. The endangered California least tern are known to forage in the nearshore waters. A wide variety of other shorebirds and wading birds utilize these habitats

The endangered salt marsh harvest mouse inhabits the marshes.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites may be nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880), for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Mark Taylor	East Bay Regional Park District	(510) 783-1066

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location: AAA Fremont - N Alameda

NOAA CHART: San Francisco Bay, Southern Part

Latitude N: 37 29.0 Longitude W: 122 02.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Prevent oil from entering bay front and diked marshes, and marsh-lined channels (San Lorenzo Creek). Avoid trampling marsh vegetation and trampling oil into mud.

HAZARDS and RESTRICTIONS:

Shallow water, Seas to 3 feet. Soft mud. Possible strong currents in channels.

SITE STRATEGIES

Strategy 2-315.1 **Objective: Exclude oil from entering the bay diked marshes and tidal channels. Should oil enter the marsh or channels contain oil to the smallest possible area.** ACP DATE 10/1/2005

a) Deploy 600 ft of harbor boom (8x8+) across the outer mouth of San Lorenzo Creek, near the edge of the marsh. Deploy 600ft of swamp boom at small angle from levee to levee, across that channel and vegetated flood plain banks. This is a wide creek (150ft) with potentially strong currents. Boom angle should be small. Deflect oil to southern shore/levee where road and small staging area are available for oil recovery. Skiffs can be deployed from levee. The boom can be delivered to site by truck. A shoreside skimming system and storage will be needed to recover oil if sufficient volume accumulates.

b) Deplot 50 ft of swamp boom (4x4+) across unnamed slough channel extending north off San Lorenzo Creek near the mouth. Deploy boom in slough near the confluence with San Lorenzo Creek. Back swamp boom with sorbent boom. Boom angle should be small as currents may be strong. Requires 1 skiff and 4 people and sufficient anchoring to seal banks of slough during the rise and fall of the tide. This slough provides water to Bunker Marsh and others north of San Lorenzo Creek.

c) Deploy 50 ft of swamp boom (4x4) at the entrance to Bunker Marsh, and another 50 ft across channel leading to East and Citation Marshes. Back swamp boom with sorbent boom. This is a leveed marsh with an unrestricted opening to the slough channel that flows to San Lorenzo Creek.

d) Close tide gate structure at entrance to North Marsh. Contact City of San Leandro - Public Works (510) 577-6022.

e) Place weir boards in concrete risers on culvert at larger tidal marsh (adjacent to the golf course and north of North Marsh).

f) Ensure flap gates are adequately closed to tidal flooding at Estudillo Canal, small marsh adjacent to golf course, and at Bockman Channel.

g) Deploy 200 ft of swamp boom (4x4) in the mouth of Bockman Channel located at southern edge of site adjacent to Oro Loma Sanitary Waste facility. Back swamp boom with sorbent boom. Requires 1 skiff and 4 people, or may possibly be deployed from land by heaving lines across this narrow channel and pulling boom across at an angle to any current. The boom can be delivered to the site by truck.

Strategy 2-315.2 **Objective: Exclude oil from entering the bay front cordgrass marsh. Should oil enter the marsh contain oil to the smallest possible area.** ACP DATE 10/1/2005

Deploy 3,000 ft of harbor boom (8+x8) around the marsh delta formed at the mouth of San Lorenzo Creek. This may require as many as 4 skiffs or shallow draft boom boats and 12 people. Anchor north end to rip rapped levee of Bunker Marsh, extend around outside (bayside) of marsh and San Lorenzo Creek mouth, south to rip rapped levee just south of Bockman Channel. Boom and skiffs may be deployed from south levee of San Lorenzo Creek or from offshore supply vessel at high tide.

Strategy 2-315.3 **Objective: Oil Recovery by skimming** ACP DATE 10/1/2005

A shoreside skimming system and adequate storage will be needed to recover oil if sufficient volume accumulates as a result of strategy .1. Likely locations are San Lorenzo Creek, Bockman Channel, and Estudillo Canal.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-315.1	600	950	0	300	8	20#	0	2	0			stakes	8	
2-315.2	3000	0	0		16	20# w/20' 1/2" chain each	0	4				stakes	12	
2-315.3	0	0	0	0	0		0	0			2	SSS/vac truck		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 880 to San Leandro; exit Washington Ave. west; right on Grant to Sanitary Waste Facility to launch ramp at San Leandro Marina, take Highway 880 to San Leandro, exit at Marina Blvd. Go west on Marina Blvd. to San Leandro Marina.

LAND ACCESS: Access for trucks on well maintained, graveled levee roads.

WATER LOGISTICS: Shallow draft vessels <6'.
Limitations: depth, obstruction

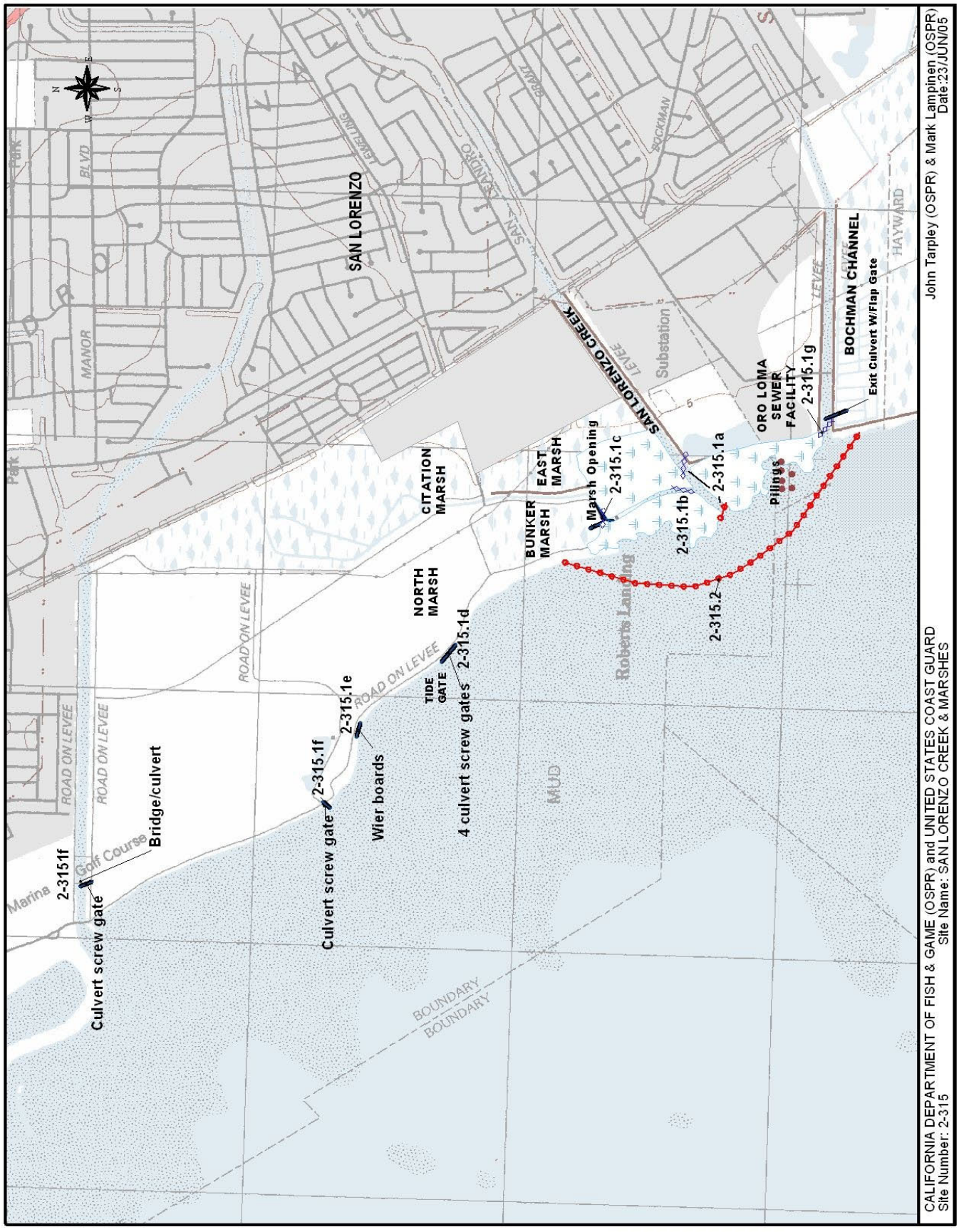
Launching, Loading, Docking and Services Available: Boat launching available at San Leandro Marina. Small skiffs may be launched from levees.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging areas and access are available at the Oro Loma Sanitary Waste Facility. There are 6,000 lb vehicle bridges across both San Lorenzo and Bockman channels. Bockman also has a foot bridge near the mouth. Shoreline south of San Lorenzo Creek is the East Bay Regional Park Districts Hayward Shoreline. Areas north of San Lorenzo Creek, such as Bunker Marsh and North Marsh are owned by the City of San Leandro.

COMMUNICATIONS PROBLEMS: No limitations for cell phones or pagers

ADDITIONAL OPERATIONAL COMMENTS:


SAN LORENZO
SAN LORENZO CREEK
BOCHMAN CHANNEL
Exit Culvert W/Flap Gate
ORO LOMA SEWER FACILITY
2-315.1g
Substation
LEVEE
HAYWARD
CITATION MARSH
BUNKER MARSH
EAST MARSH
Marsh Opening
2-315.1c
2-315.1a
2-315.1b
Pilings
NORTH MARSH
2-315.1d
TIDE GATE
4 culvert screw gates
2-315.1e
Wier boards
2-315.1f
Culvert screw gate
2-315.2
Roberts Landing
ROAD ON LEVEE
MUD
Marina
Golf Course
Bridge/culvert
2-3151f
Culvert screw gate
BOUNDARY
BOUNDARY
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-315
Site Name: SAN LORENZO CREEK & MARSHES
John Tarpley (OSPR) & Mark Lampinen (OSPR)
Date:23/JUN/05
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-320 -A Site Summary- Oro Loma Marshes 2-320 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**	AAA Fremont - N	37 29.0	122 02.0
USGS Quad:	**San Leandro**	NOAA Chart: **San Francisco Bay, Southern Part**		

Last Page Update : 10/1/2002

SITE DESCRIPTION:

A large contiguous section of pickleweed marsh located along the east side of south San Francisco Bay and bounded on the north by the Bockman Channel, the east by the city of Hayward, the south by Cogswell Marsh, and on the west by San Francisco Bay. The bay front edge off this site is rip rapped levee, with the exception of a small marsh at Hayward Landing. Mudflats extend 1000's of feet out from the levees into San Francisco Bay. The site consists of three separate salt marshes running approximately 1.7 miles along the east bay shoreline from the mouth of Bockman Channel to the southern tip of Triangle Marsh. The largest of these and the highest priority is the approximately 364 acre Oro Loma Marsh located just south of Bockman Channel and north of Sulpher Creek. Oro Loma is partially protected by levees and fed by two 65 foot channels, one which opens directly to the Bay, and one which opens to Sulphur Creek. Frank's Dump Marsh, as well as a higher elevation landfill/grassland area, is located south of Sulphur Creek and North of West Winton Channel. It is fed by one rubber-valved channel from Sulphur Creek. The third and smallest marsh is Triangle Marsh which extends south from West Winton Channel to Cogswell Marsh and has one inlet near the mouth of West Winton Channel.

SEASONAL and SPECIAL RESOURCE CONCERNS

The site is an "A" priority all year. The endangered California Clapper Rail and Salt Marsh Harvest Mouse are known to be present and nesting in the Oro Loma Marsh.

RESOURCES OF PRIMARY CONCERN

Wetlands and tidal flat habitats are present at this site. Caspian Terns are known to frequent Oro Loma Marsh. The Frank's Dump Marsh West area is open of vegetation, holds ponded water, and is heavily used by migratory waterfowl and shorebirds.

Endangered California clapper rail, salt marsh harvest mouse, California least tern, and threatened snowy plover, as well as pickleweed and cordgrass marsh, and fish are present at the site.

The endangered least tern and large numbers of snowy plover have been reported to frequent Frank's Dump Marsh West. California Clapper Rail and Black Rail have been reported to occur, but not nest, in non-native cordgrass and pickleweed habitat north of Hayward Landing Point, as well as in Triangle Marsh. Salt marsh harvest mouse may also be present in these two areas.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Hayward Landing is a historic site. Ohlone cultural sites may be nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880), for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Mark Taylor	East Bay Regional Park District	(510) 783-1066

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location: AAA Fremont - N Alameda

NOAA CHART: San Francisco Bay, Southern Part

Latitude N: 37 29.0 Longitude W: 122 02.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The main concerns are the very sensitive marshes and mudflats here, which are almost impossible to cleanup. The intention is to prevent oil from entering the marshes. Avoid disturbing or trampling marsh vegetation and don't trample oil into the mud.

HAZARDS and RESTRICTIONS:

Shallow water, seas to 3 feet. Soft mud. Small pilings offshore, northwest of Sulphur Creek. Rocks and pilings of old Hayward Landing running parallel to shore northward from West Winton Channel (about 1/4 mile long).

SITE STRATEGIES

Boom can be delivered by truck.

Strategy 2-320.1 **Objective: Exclude oil from entering the Oro Loma Marsh and Frank's Dump Marsh. Should oil enter the marsh, contain oil to the smallest possible area.**

ACP DATE 10/1/2005

a) Deploy 800 ft of harbor boom in chevron outside of main uncontrolled breach into Oro Loma from bay. High currents (up to 5 kt) require very steep angle for deployment. Can be accomplished with 2 skiffs and 6 people. Shallow draft boom boat would also be useful. Use 100 ft of sorbent boom, 50 ft of Oil Snare (OS) to collect any oil that may accumulate. If oil accumulates in skimmable quantities contact IC/UC.
B) Deploy 500 ft of harbor boom in mouth of Sulphur Creek at steep angle under bridge, deflecting to southern shoreline just west of rubber intake to Frank's Dump Marsh West. Plug or cover 12" rubber intake valve. Can be accomplished with 1 skiff and 4 people. Use 100 ft of sorbent boom, 50 ft of Oil Snare (OS) to collect any oil that may accumulate. If oil accumulates in skimmable quantities contact IC/UC.
C) Close two screw-down tide gates at inlet to Triangle Marsh. Call EBRPD to do this.
D) Exclude oil from West Winton Channel and inlet to Triangle Marsh with 500 ft of harbor boom angled from southern tip of Hayward Landing point to point of land south of inlet of Triangle Marsh. Tasks can be accomplished with 1 skiff and 4 people.

Strategy 2-320.2 **Objective: Exclude oil from entering Frank's Dump Marsh, East/West. Should oil enter the marsh, contain oil to the smallest possible area.**

ACP DATE 10/1/2005

a) Should only be deployed after Strategy 2-320.1b which also protects this opening. Deploy 200 ft of harbor boom in chevron across northern opening to Oro Loma located ~2000 ft to the east inside Sulphur Creek. Can be accomplished with 1 skiff and 4 people.
b) Close the six 36" open pipes under West Winton Channel bridge with sandbags or plywood. If the flap gates on six 48" pipes are stuck open, close them with sandbags, too.

Strategy 2-320.3 **Objective: Exclude oil from entering Triangle Marsh and West Winton Channel. Protect bayfront pickleweed marsh. Should oil enter the marsh, contain oil to the smallest possible area.**

ACP DATE 10/1/2005

Deploy 2,000 ft of harbor boom from southern tip of Hayward Landing point, extending north around point to shoreline to the north to protect the pickleweed marsh north of the point. Use 4 skiffs and 12 people to implement this task.

Strategy 2-320.4 **Objective: Oil Recovery by skimming**

ACP DATE 10/1/2005

Deploy skimmers, and vac trucks if needed, if oil accumulates in skimmable quantites. Consult IC/UC prior to initiation of this strategy

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-320.1	1800	0	100 OS	200	11	22#+ w/20' 1/2" chain each		4			1	1000' 1/2" anchor line	14	5
2-320.2	200	0	0	0	2	20# w/20' 1/2" chain each	0	1			1	1000' 1/2" anchor line.	4	5
2-320.3	2000	0	0	0	6	20# w/20' 1/2" chain each	0	4	0		1	1000' 1/2" anchor line.	12	5
2-320.4	0	0	0	0	0		0	0	2	SSS	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 880 to Hayward. Take Winton Ave. exit. Go west on W. Winton Ave to Hayward Regional Shoreline. Launch ramp at San Leandro Marina. Take Highway 880 to San Leandro. Take Marina Blvd. exit. Go west on Marina Blvd. to San Leandro Marina.

LAND ACCESS: Access for trucks on well maintained, graveled levee roads.

WATER LOGISTICS: Shallow draft vessels <6'. Rocks, pilings offshore at Hayward Landing
Limitations: depth, obstruction

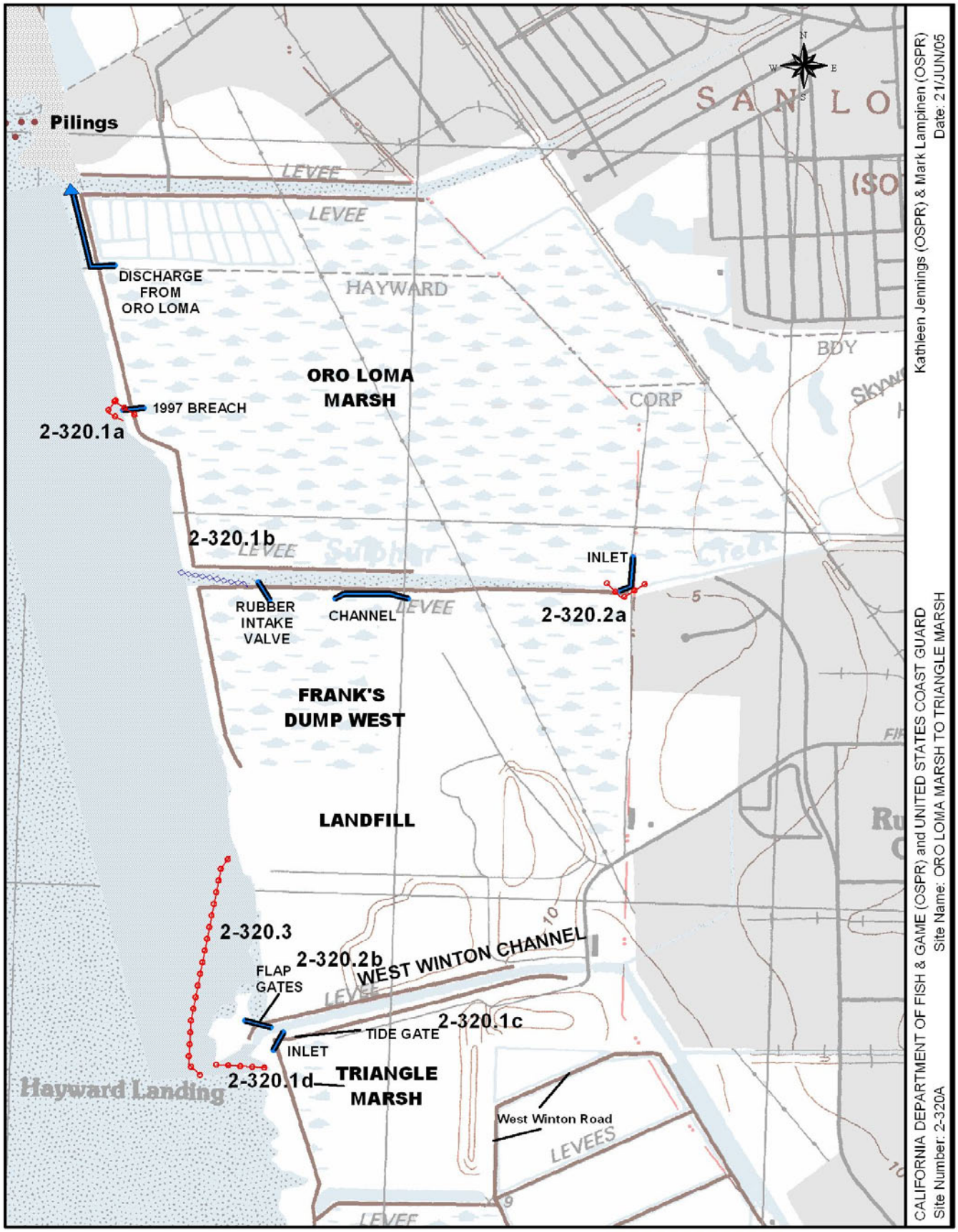
Launching, Loading, Docking and Services Available: Boat launching available at San Leandro Marina. Small skiffs may be launched from levees or small dirt ramp south of Hayward Landing point.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

This is all part of East Bay Regional Park's Hayward Shoreline. A small staging area and access is available at the shoreline office at the west end of W. Winton Ave. Access is also available at the west end of Breakwater Ave. adjacent to Highway 92.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


Pilings
LEVEE
LEVEE
DISCHARGE FROM ORO LOMA
HAYWARD
ORO LOMA MARSH
1997 BREACH
2-320.1a
2-320.1b
LEVEE
INLET
RUBBER INTAKE VALVE
CHANNEL
LEVEE
2-320.2a
FRANK'S DUMP WEST
LANDFILL
2-320.3
2-320.2b
WEST WINTON CHANNEL
FLAP GATES
LEVEE
TIDE GATE
2-320.1c
INLET
2-320.1d
TRIANGLE MARSH
Hayward Landing
West Winton Road
LEVEES
LEVEE
CORP
BDY
Kathleen Jennings (OSPR) & Mark Lampinen (OSPR)
Date: 21/JUN/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: ORO LOMA MARSH TO TRIANGLE MARSH
Site Number: 2-320A
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

Site Summary- Cogswell, Hayward, and HARD Marshes

2-324 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Alameda	AAA Fremont - N	3 7 .63	122.15
USGS Quad:	San Leandro	NOAA Chart: San Francisco Bay, Southern Part		

Last Page Update : 10/1/2002

SITE DESCRIPTION:

The site consists of three contiguous salt marshes. Cogswell, Hayward and HARD Marshes, which are contained within levees, two emergent marshes at Johnson's Landing, and the Oliver Bros. salt ponds. Length of the site is approximately 3 miles total, along the east side of San Francisco Bay, south of Hayward Landings' Triangle Marsh to the Highway 92 bridge and bounded on the east by the Southern Pacific Railroad. Ownership of Cogswell, Hayward and the Johnson Landing marshes is public through East Bay Regional Parks District. HARD marsh is owned by Hayward Area Recreation District and the Oliver Bros. salt ponds are private but managed by the USFWS. Cogswell Marsh (250 acres) is located immediately south of Hayward Landings' Triangle Marsh. The Cogswell Marsh levee has 2 openings of 800 ft and 300 ft. To the Bay and is a fully tidal salt marsh. Hayward Marsh (145 acres) is a managed brackish marsh. Cogswell and Hayward Marshes are separated by a leveed discharge channel. There are two 36" flap gates for discharge that drain into this channel. An intake channel on the southside of Johnson's Landing feeds into Hayward Marsh. This channel has a single 48" diameter screw gate at the mouth. Adjacent to the intake channel for Hayward Marsh is the mouth of the HARD Marsh channel. This channel passes under a vehicle bridge and runs along the Breakwater Ave. access road and opens into the HARD marsh (80 acres) which is a fully tidal saltmarsh. The Oliver Bros. salt ponds (+100 acres) intake water from this channel via tide gate controls. Johnson Landing has two exposed bayfront pickleweed marshes of approximately 2 acres total in size.

SEASONAL and SPECIAL RESOURCE CONCERNS

The site is an "A" priority all year.

RESOURCES OF PRIMARY CONCERN

Extensive wetland habitats. The endangered salt marsh harvest mouse inhabits the marshes. The marshes are nesting habit for endangered California clapper rail, herons, egrets and resident shorebirds. Endangered California least terns are known to occur seasonally (summer) in the area. The interior marshes are heavily used by migratory waterfowl, shore and wading birds. The salt ponds adjacent to Hwy 92 have snowy plover nesting.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites may be nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880), for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
E	EBRP Dispatch EBRP	East Bay Regional Park District	(510) 881-1833
	Mike Josselyn	NOAA, National Marine Fisheries Service	(415) 454-8868
	John Krause	CA Dept. of Fish & Game, Region 3	(415) 454-8050
	Butch Paredes	Cargill Salt	(510) 790-8165
B	Mark Taylor	East Bay Regional Park District	(510) 783-1066

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA Fremont - N Alameda	San Francisco Bay, Southern Part	3 7 .63	122.15

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is to prevent oil from entering the interior marshes via levee breaches and tidal channels. Secondarily, prevent oiling of marsh margins. Avoid trampling the marsh vegetation and be aware that small endangered mammals and birds are present. Avoid trampling oil into marsh. Should oil enter the marsh, expect injury and death of marsh vegetation, small mammals, shorebirds and waterfowl.

HAZARDS and RESTRICTIONS:

Very shallow water, offshore access may be limited to high tide periods, seas to 3 feet. Soft mud.

SITE STRATEGIES

Strategy 2-324.1 **Objective: Exclude oil from entering Cogswell, Hayward and HARD marshes. Should oil enter the marshes, contain oil to the smallest possible area.** ACP DATE 10/1/2005

a. Cogswell Marsh (north levee breach): Deploy 1400 ft of harbor boom in an apex across the levee breach (800 ft.). Road access from W. Winton Ave. Small skiffs can be deployed from levees.
b. Cogswell Marsh (south levee breach): Deploy 600ft of harbor boom in apex across the levee breach (300 ft.). Foot bridge spans this breach. Road access from Hwy 92 side. Small skiffs can be deployed from levees.
c. Hayward Marsh: Ensure that intake tide gate (single 48" diameter screw gate) at mouth of intake channel is closed. Ensure that discharge culverts (two 36" discharge flap gates) located in discharge channel are closed to Bay inflow. Contact East Bay Regional Park District Dispatch (510) 881-1833.
d. HARD Marsh: Deploy 600ft of harbor boom from easterly most points of land at an angle to close channel. Vehicle bridge spans channel near mouth. Stron current at bridge. Road access from Hwy 92 side. Contact East Bay Regional Park District Dispatch (510) 881-1833.

Strategy 2-324.2 **Objective: Exclude oil from entering interior of Cogswell Marshes. Should oil enter the marshes, contain oil to the smallest possible area.** ACP DATE 10/1/2005

a. Deploy 800 ft of harbor boom from north breach to south end of the foot bridge to the east. This closes off northern interior marsh opening. Land access from W. Winton Ave.
b. Deploy 600ft of harbor boom on the inside of the south breach (300 ft.) to act as a collection pocket. Land access from Hwy 92 side.

Strategy 2-324.3 **Objective: Exclude oil from Johnson's Landing marshes** ACP DATE 10/1/2005

Deploy 1000 ft of swamp boom to protect two bayfront pickleweed marshes. Use 600ft around Johnson Landing point. Use 400 ft in front of second exposed marsh (200ft south of Johnson's Landing) and connect with HARD Marsh harbor boom. Road access from Hwy 92 side.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-324.1	2600	1000	0	0	0	9/22+ & 14/12+ danforth	2	4	0	0	bboat: shallow, strandable, stakes	14	2
2-324.2	1400	0	0	0	0	6/22+ danforths & 8/12+ danforth	1	2	0	0	bboat: shallow, strandable. Stakes	6	
2-324.3	1000	0	0	0	0	4/22+danforths & 6/12+ danforth	0	2	0	0	bboat: shallow, strandable. Stakes	6	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 880 to Hayward. Cogswell Marsh: Take Winton ave. exit. Go west on W. Winton ave. to Hayward Regional Shoreline. HARD and Hayward Marshes: Take Hwy 92 exit. Take Breakwater Ave. exit (Hayward shoreline Interpretive Center). Access by levee road to marshes (roads may be marginal in wet conditions). Launch ramp at San Leandro Marina. Take Highway 880 to San Leandro. Take Marina Blvd. exit. Go west on Marina Blvd. to san Leandro marina. The site consists of three contiguous salt marshes. Cogswell, Hayward and HARD Marshes, which are contained within levees, two emergent marshes at Johnson's Landing, and the Oliver Bros. salt ponds. Length of the site is approximately 3 miles total, along the east side of San Francisco Bay, south of Hayward Landings' Triangle Marsh to the Highway 92 bridge and bounded on the east by the Southern Pacific Railroad. Ownership of Cogswell, Hayward and the Johnson Landing marshes is public through East Bay Regional Parks District. HARD marsh is owned by Hayward Area Recreation District and the Oliver Bros. salt ponds are private but managed by the USFWS.

LAND ACCESS: Access for trucks on well maintained, graveled levee roads.

WATER LOGISTICS: Shallow Draft Vessels <6'.
Limitations: depth, obstruction

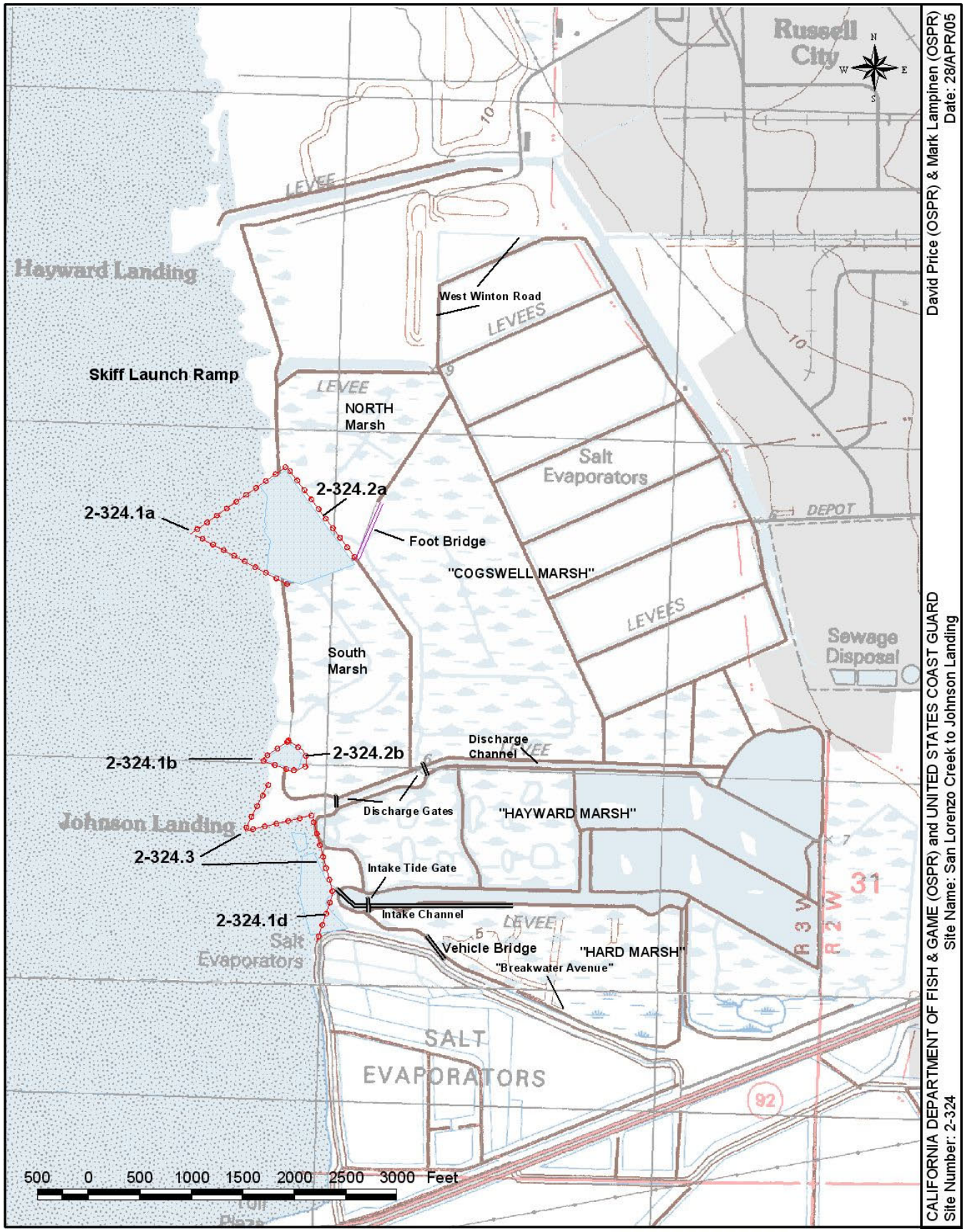
Launching, Loading, Docking and Services Available: Boat launching available at San Leandro Marina. Small skiffs may be launched from levees.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

This is all part of East Bay Regional Park's Hayward Shoreline. A small staging area and access is available at the shoreline office at the west end of W. Winton Ave. Access is also available at the west end of Breakwater Ave. adjacent to Highway 92.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


Russell City
Hayward Landing
West Winton Road
LEVEES
LEVEE
Skiff Launch Ramp
NORTH Marsh
Salt Evaporators
2-324.2a
2-324.1a
Foot Bridge
"COGSWELL MARSH"
DEPOT
LEVEES
Sewage Disposal
South Marsh
2-324.1b
2-324.2b
Discharge Channel
Discharge Gates
"HAYWARD MARSH"
Johnson Landing
2-324.3
Intake Tide Gate
Intake Channel
2-324.1d
Salt Evaporators
Vehicle Bridge
"HARD MARSH"
"Breakwater Avenue"
SALT EVAPORATORS
R3W
R2W
31
92
500 0 500 1000 1500 2000 2500 3000 Feet
David Price (OSPR) & Mark Lampinen (OSPR) Date: 28/APR/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: San Lorenzo Creek to Johnson Landing
Site Number: 2-324
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-325 -A Site Summary- Eden Landing Ecological Reserve -Alameda Crk 2-325 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Alameda		37 35.3	122 09.0
USGS Quad:	Redwood Point, Newark	NOAA Chart:	San Francisco Bay, Southern Part	

Last Page Update : 12/8/2004

SITE DESCRIPTION:

Eden Landing Ecological Reserve is a 6,200 acre marsh on the east side of south San Francisco Bay extending four miles south from the San Mateo Bridge to the levee on Coyote Hills Slough, and inland about three miles. This California Dept of Fish and Game Reserve is roughly bounded on the north by Highway 92, the east by the Southern Pacific Railroad, on the west by San Francisco Bay, and on the south by Coyote Hills Slough (Alameda Flood Control Channel). It is fronted by very shallow mudflats extending offshore for a mile. There are four major channels allowing tidal exchange with the extensive marshes, most of which are behind levees and dikes; but there are two large areas (totaling about 320 acres) of undiked marsh fronting on the bay which have direct bay contact. The exposed marsh frontage is in two locations: there is a 18 acre pocket marsh just south of the San Mateo Bridge (about 1/3 mile of bay frontage), and a large marsh (Whale's Tail Marsh - 300 acres) extending about a mile north and a mile south from the mouth of the Old Alameda Creek channel which is about a half mile wide. Both bay front marshes are fairly elevated pickleweed marsh with cordgrass margins. The remainder of the 4 miles of bay frontage, about 1.5 miles, is riprap and exposed, eroding dikes with low sensitivity.

Marshes behind bay front levees include about 40 diked ponds and channels that vary from well vegetated to newly converted salt ponds of largely open water. As of November 2004, the entire marsh circulation system is undergoing improvement including repositioning and replacement of existing channels and interior tide gates and siphons. Of the four openings to inner ponds from the bay, two have (or will have) tide gate controls. The major exposure from the bay is via Old Alameda Creek channel which, in addition to extensive marshes along its margin, has several openings (North Creek and uncontrolled tide gates) to inner ponds. There is also significant site exposure from the upstream Old Alameda Creek urban drainage (most of Alameda Creek Drainage has been diverted to Alameda Flood Control Channel): at the east edge of the marsh, Old Alameda Creek has a road crossing with twenty 48" flap tide gates (open to ebb flow) where stream flows enter tidal channels.

SEASONAL and SPECIAL RESOURCE CONCERNS

The marsh is an "A" priority all year. Large numbers of birds winter in the interior ponds.

RESOURCES OF PRIMARY CONCERN

There is over two miles of exposed high pickleweed marsh with fringing cordgrass plus similar exposed frontage in Alameda Creek Channel totaling about 400 acres. The remainder of the 6200 acres is restored salt ponds varying from developed marsh to open ponded water.

The endangered California clapper rail and California black rail are found along the marsh front, particularly in south Whale's Tail Marsh and along Old Alameda Creek. Endangered least terns forage in the interior ponds (ponds 10 and 11) near the bridge toll plaza. The ponded areas are used year round by thousands of waterbirds and shorebirds. There is a heron rookery in pond 6B.

Endangered salt marsh harvest mouse live in these marshes and historically the saltmarsh wandering shrew was found here. Harbor seals haulout at the south tip of Old Alameda Creek.

Bay fish species tend to move in and out of these ponds and channels.

There is an eelgrass bed near the mouth of Old Alameda Creek

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
B	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
B/T	Mike Josselyn	NOAA, National Marine Fisheries Service	(415) 454-8868
TBE	John Krause	CA Dept. of Fish & Game, Region 3	(415) 454-8050
E	Butch Paredes	Cargill Salt	(510) 790-8165
B	Mark Taylor	East Bay Regional Park District	(510) 783-1066

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Alameda	San Francisco Bay, Southern Part	37 35.3	122 09.0

Last Page Update : 12/8/2004

CONCERNS and ADVICE to RESPONDERS:

Threatened and endangered species are in both bay front and back marshes as are thousands of birds and fish: should oil enter the marsh, expect severe injury and death of marsh vegetation, small mammals, shorebirds and waterfowl. Primary concern is to prevent oil entry to extensive marshes (6,000 acres) by blocking water entries. Secondary concern is oiling of two large bay front marshes. Avoid trampling vegetation and avoid trampling oil into sediments.

HAZARDS and RESTRICTIONS:

Extremely extensive and shallow mudflats in SF Bay in front of this site. Seas to 3 feet under windy condtions. High voltage electictowers and lines at east end of site pose hazards to helicopter and other low flying traffic.

SITE STRATEGIES

Shallow water craft or high tide conditions are necessary for some operations. During wet season, roads are often impassible to vehicles. Currents in channels tend to be strong, requiring diagonal booming, heavy anchors and chain, and longer anchoring scope in currents.

Strategy 2-325.1 Objective: Primary: Exclude oil from entry channels by booming and closing tide gates at bay front. ACP DATE 10/1/2005

a. Mt. Eden Creek opening needs 200 ft of harbor boom in a chevron to exclude oil from entering the permanently open culvert between Hwy 92 toll plaza and Whale's Tail Marsh. (Eventually, the creek mouth will be rerouted to just north of Whale's Tail Marsh and have screw gate closures.)
b. Exclude oil from entering Old Alameda Creek mouth with a chevron deployment at the mouth (1500 ft of 8X8+ harbor boom), with shoreline attachments just past the mouth to the south and well north (200 ft) of mouth. Back with sorbent boom (1000 ft)
c. Exclude oil from entering channel at south end of 'Whale's Tail Marsh with chevron (600 ft of 8+X8+ harbor boom), with attachments north and south of the mouth. Back with sorbent boom (600 ft).
d. About a mile south of Old Alameda Creek mouth is a screw tide gate for two 48" culverts. These must be closed to exclude oil and boomed with 100ft of 8X8+ harbor boom.
e. Call John Krause, DFG, for information and assistance - 415-454-8050. OSPR Environmental Scientists also have information, gate keys, and keys to locks on tide gates.

Strategy 2-325.2 Objective: Protective booming of Whale's Tail Marsh and pocket marsh south of HWY 92 toll plaza. ACP DATE 10/1/2005

Prevent oiling of exposed marsh and exclude oil penetration via finger channels:
a. Deploy 2000 ft of harbor boom (8X8 or better) and sorbent from riprap near toll plaza to riprap levee shore 1/3 mile south of Hwy. There is a lot of debris at this location which indicates that oil would tend to collect here.
b. Deploy 9300 ft of harbor boom and sorbent from riprap at north edge of Whale's Tail Marsh to riprap at south end of Whale's Tail Marsh; link it to exclusions at mouth of Old Alameda Creek and unnamed channel at south end of marsh which should be already be deployed (2-306.1). [upper leg is about 4700 ft; lower leg to south is about 4600 and should be linked to lower exclusion which should already be in place (2-306.1c: 600 ft).] The area at the south end of Whale's Tail marsh below the unnamed channel has a lot of debris and may be a locale where oil will naturally collect.
NOTE: Call John Krause, DFG, for information and assistance for keys, directions, and road conditions - 415-454-8050. OSPR Environmental Scientists also have information and keys to gates.

Strategy 2-325.3 Objective: Collection - develop or enhance skimming at mouth of old Alameda Creek when substantial oil is present. ACP DATE 10/1/2005

Create a skimming pocket by deploying an additional 300 ft of harbor boom just inside the mouth of Old Alameda Creek. Back the pocket with second layer of boom (50 ft swamp boom) and sorbent. Deploy a shoreside skimming system (SSS) on the north levee (may be limited by wet weather). On-site storage will be necessary.

Strategy 2-325.4 Objective: For inland spills from upstream Old Alameda Creek, collect oil at east creek crossing. ACP DATE 10/1/2005

Divert oil to bank using diagonal deployment of two 250ft layers of swamp boom and establish shoreside skimming. If oil is light, consult IC for alternatives to SSS. If current is strong, contact IC about underflow dam construction. NOTE: it may be possible to manipulate current pattern to benefit skimming by blocking selected culverts.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-325.1	2400			1600	17	7-22#+& 10-15#+/20'1/2"chain each	2	1					7	
2-325.2	11300	0	0	10000	25	22#+ danforth and chain	4	3	0		0		23	
2-325.3	300	50	0	50	5	15#+ danforths	0	1	1	SSS	1	storage tank	3	2

2-325.4	0	500	0	0	10	4 12#+ anchors + 6 stakes	0	0	1	SSS	0	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

There is access to site at three points. 1) East side access: exit I-880 at Alvarado, north (right) and continue north about 2 miles crossing Union City Blvd onto Horner St and continuing to Veasy St then right to the locked gate. 2) South side access to site and bay front: exit I-880 as above and turn left on Lowry Rd after crossing the flood control channel and continue to Newark Blvd (Union City Blvd): on the opposite side of the Blvd is an East Bay Regional Parks (EBRP) access parking area: the flood control levee is accessible though a locked gate (call EBRP). 3) North side access: exit Hwy 92 freeway at Eden Landing Rd and proceed south to a locked gate (call DFG for access). (Driving within the site is limited seasonally.) Eden Landing Ecological Reserve is a 6,200 acre marsh on the east side of south San Francisco Bay extending four miles south from the San Mateo Bridge to the levee on Coyote Hills Slough, and inland about three miles. This California Dept of Fish and Game Reserve is roughly bounded on the north by Highway 92, the east by the Southern Pacific Railroad, on the west by San Francisco Bay, and on the south by Coyote Hills Slough (Alameda Flood Control Channel). It is fronted by very shallow mudflats extending offshore for a mile.

LAND ACCESS:	during wet season, south channel only; otherwise roads all traffic.
WATER LOGISTICS: Limitations: depth, obstruction	Shallow draft vessels <4'.
Launching, Loading, Docking and Services Available:	Boat launching available at Redwood City Harbor or San Leandro Marina. Possible CalTRANS launch ramp at toll plaza. Small skiffs may be launched from local levees or Hayward Regional Shoreline.

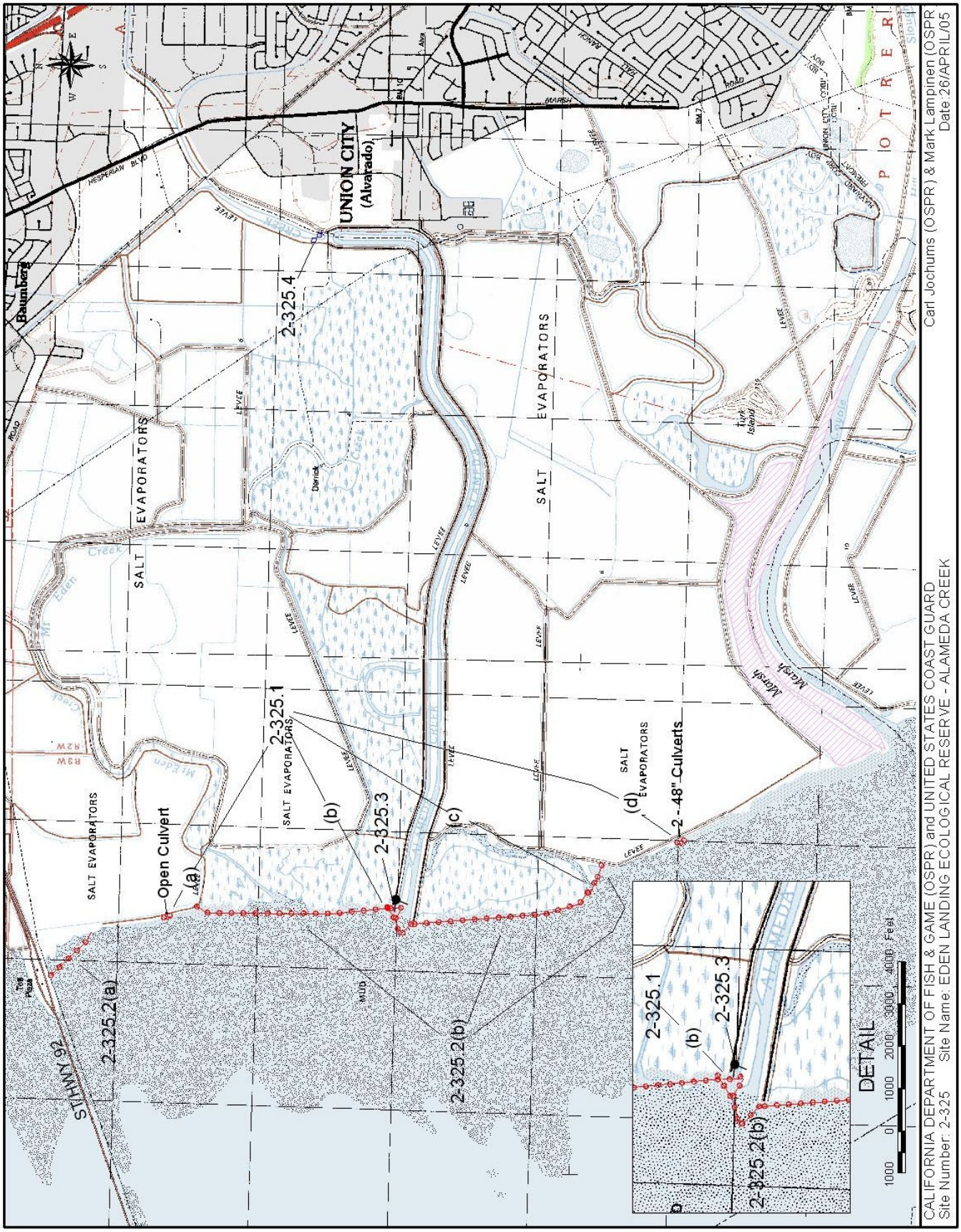
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at end of Veasey Rd, also at EBRPD land off Newark Blvd at the Alameda Flood Control Channel access. Small staging area and field post possible at Hayward Regional Shoreline or National Wildlife Refuge HQ. Command Post available at Alameda County OES.

COMMUNICATIONS PROBLEMS: NONE

ADDITIONAL OPERATIONAL COMMENTS:

Vehicle access is controlled by Cargill Salt and Alameda County Flood Control. Truck turn-arounds are available within several hundred yards of the Bay shoreline and will be useful when roads are passable. There is a possible access to the levee from west bound Hwy 92 at the toll plaza, but that would require improvement with several truckloads of fill to enable exit from the hwy grade to the levee.


UNION CITY
(Alvarado)
HESPERIAN BLVD
Baumberg
SALT EVAPORATORS
2-325.4
2-325.1
2-325.3
2-325.2(a)
2-325.2(b)
Open Culvert
(a)
(b)
(c)
(d)
2 - 48" Culverts
STHWY 92
DETAIL
Carl Jochums (OSPR) & Mark Lampinen (OSPR
Date 26/APRIL/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-325 Site Name: EDEN LANDING ECOLOGICAL RESERVE - ALAMEDA CREEK
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-326 -A Site Summary- Coyote Hills Slough -Alameda Flood Control Channel 2-326 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**	AAA Hayward - U	37 29.0	122 02.0
USGS Quad:	**Newark, Redwood Point**	NOAA Chart: **San Francisco Bay, Southern Part**		

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This wide flood control channel begins at I-880 and extends about 5 miles to the bay front mouth (about 4 miles south of the San Mateo Bridge and about 2 miles south of Old Alameda Creek mouth). At the mouth, the channel is about one-third mile wide. It is bounded by flood control levees and includes over 440 acres of salt marsh and several adjacent marshes and salt ponds draw water from the channel. This channel is owned and maintained by Alameda County. The narrow portions of the channel are over 500 feet wide, and the waterway itself is only a small portion of the total channel. The north half of the channel had historic levees which separated it from the bay and from the old slough, but these levees are now compromised, and small finger channels provide tidal exchange. Most of the channel is saltmarsh and is tidally influenced. Of the adjacent properties which draw water from the Slough, the land to the north is mostly Eden Landing Ecological Reserve land (CA DFG); property on the south side of the channel is mostly East Bay Regional Parks District land on the east end (Coyote Hills Regional Park); and toward the bay, USFWS land (currently leased to Cargill Salt). Alameda Creek Trails EBRPD maintains trails on both levees. The watershed of this large channel drains several hundred square miles including urban areas; so, urban threats are also a concern here. The levees are year-round roads all the way to the bay front.

SEASONAL and SPECIAL RESOURCE CONCERNS

The marsh is an "A" priority all year.

RESOURCES OF PRIMARY CONCERN

Within the channel there are about 400 acres of salt marsh habitat and shallows with the typical complement of fauna and flora. Most of the marsh is pickleweed and high marsh, but there is cordgrass marsh at the bay front. In additional, the extensive marshes and salt ponds adjacent which draw water from the channel are at risk.

The endangered California clapper rail and the threatened California black rail live in the marshes. Endangered least tern forage in the channel near the mouth.

The endangered salt marsh harvest mouse inhabits these marshes.

This is a steelhead stream. So, adults pass through on their way upstream and smolts migrate downstream.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
B	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
B	Deborah Bartens	Baylands Nature Preserve	(415) 329-2506
B	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
B	Joseph Didonato	East Bay Regional Park District	(510) 635-0135
B	Janet Hanson	SF Bird Observatory	(650) 728-5816
B/T	Mike Josselyn	NOAA, National Marine Fisheries Service	(415) 454-8868
E	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA Hayward - U Alameda	San Francisco Bay, Southern Part	37 29.0	122 02.0

Last Page Update : 12/20/2004

CONCERNS and ADVICE to RESPONDERS:

Oil from the bay or inland poses a threat to over 430 acres of marshes which are habitat for many species including rare and endangered birds and small animals. Concern is to stop oil from entering the waterway and marshes from the bay, or for inland oil, minimize impacts and keep oil from leaving the channel. Minimize trampling of vegetation and disturbance of wildlife. Avoid trampling oil into sediment.

HAZARDS and RESTRICTIONS:

Shallow water and extensive mudflats at mouth. Seas to 3 feet at bayfront during windy conditions. Aircraft beware of highpower wires crossing the channel about 2 miles east of waterfront.

SITE STRATEGIES

Shallow water craft or high tide conditions are necessary for some operations. Currents in channels tend to be strong, requiring diagonal booming, heavy anchors and chain, and longer anchoring scope in currents. Deployment from levee may be most feasible approach since levee roads are good and shallow waters pose limitations.

Strategy 2-326.1 Objective: Primary: Exclusion booming when oil threat is from bay. ACP DATE 10/1/2005

a. Exclude oil from entering main channel: deploy boom at the mouth in a chevron and deflect as much as possible to natural collection site south of mouth. 1400 ft of 4X4+ boom (harbor boom may be substituted). Back with a 500 ft diagonal of sorbent boom. This action is best addressed from water or from south levee.
b. Exclude oil from entering the marshy area north of the stream mouth by booming from the chevron above, to the north levee. 1300 ft of 4X4+ boom (harbor boom may be substituted). There is a low partially destroyed dike which extends from the north channel levee to the mouth of main channel; several small finger channels enable flow thoughout this large pickleweed marsh section: block each of this with a bat of sorbent boom and stake in place. This action is best addressed from water or from north levee.

Strategy 2-326.2 Objective: Backup primary bay exclusion: secondary layer of exclusion booming for oil threat from bay under windy conditions or major oil threat. This is a repeat of primary strategy minus sorbent boom. ACP DATE 10/1/2005

a. Back-up exclusion on main channel: deploy boom at the mouth in a chevron and deflect as much as possible to natural collection site south of mouth, behind primary exclusion. 1400 ft of 4X4+ boom (harbor boom may be substituted). This action is best addressed from water or from south levee.
b. Back-up exclusion from entering the marshy area north of the stream mouth by booming from the chevron above, to the north levee, behind primary exclusion. 1300 ft of 4X4+ boom (harbor boom may be substituted). This action is best addressed from water or from north levee.

Strategy 2-326.3 Objective: Skimming operations at this site. Natural skim pocket with access just south of mouth. ACP DATE 10/1/2005

There is a natural skimming pocket surrounded by low dikes just to south of channel mouth. Strategy 2-326.1 and .2 should direct skimmable oil to this location. Use 600 ft of light boom with sorbent backing to devise a skimming pocket to trap and hold oil in the pocket (also Oil Snare for trapping on ebb). It may be necessary to excavate a depression to enable skimming head. Storage tank or vacuum truck will be necessary for oil collection. Light stations will be needed for night operations including skimming. NOTE: if oil is too light for effective skimming, on-scene staff should contact IC to consider passive collection with Oil Snare.

Strategy 2-326.4 Objective: Inland oil threats: exclusion, deflection, collection. ACP DATE 7/1/1996

In the event of inland oil threats, seek collection site offering best advantage in current management and access and create a skim pocket. (Excavation of pocket may be necessary to keep oil from entraining or re-entering current.) Use diagonal booming (light boom) to move oil into collection pocket, and back deflection with sorbent. Line skim pocket with light boom and sorbent. Use Oil Snare to collect oil as needed. Shoreside skimming (SSS) will require on-site storage or vacuum truck. Light stations will be needed for night operations including skimming. Actual amount of boom needed will depend on where oil can be controlled: 700 ft of swamp boom and 100 ft of oil snare should be adequate.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-326.1		2700		500	17	2 22#+ & 5 12#+ danfth & 10 stakes	1	2					10	
2-326.2		2700			7	2 22#+ & 5 12#+ danft & heavy chain	1	2					7	
2-326.3		600	100 OS	400	12	2 12#+ danfth & 10 stakes		1	1	SSS	2	stroage tank or vac truck, light.	3	2
2-326.4		700	100 OS	700	15	5 12#+ danfth & 10 stakes		1	1	SSS	2	storage tank or Vac Truck, lights	3	2

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Access to northside levee: exit I-880 at Alvarado, north (right) and after crossing the flood control channel, turn left on Lowry Rd and continue to Newark Blvd (Union City Blvd): on the opposite side of the Blvd is an East Bay Regional Parks (EBRP)

access parking area: the flood control levee is accessible though a locked gate (call EBRP or Alameda County Flood Control). Access directly by boat. This wide flood control channel begins at I-880 and extends about 5 miles to the bay front mouth (about 4 miles south of the San Mateo Bridge and about 2 miles south of Old Alameda Creek mouth). At the mouth, the channel is about one-third mile wide. It is bounded by flood control levees and includes over 440 acres of salt marsh and several adjacent marshes and salt ponds draw water from the channel. This channel is owned and maintained by Alameda County.

LAND ACCESS: All season gravel roads to bay on Alameda Co Flood Control levees.

WATER LOGISTICS: Shallow draft vessels <3'
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Boat launching available at Redwood City Harbor. Small skiffs may be launched from levees: south levee is closer to water.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

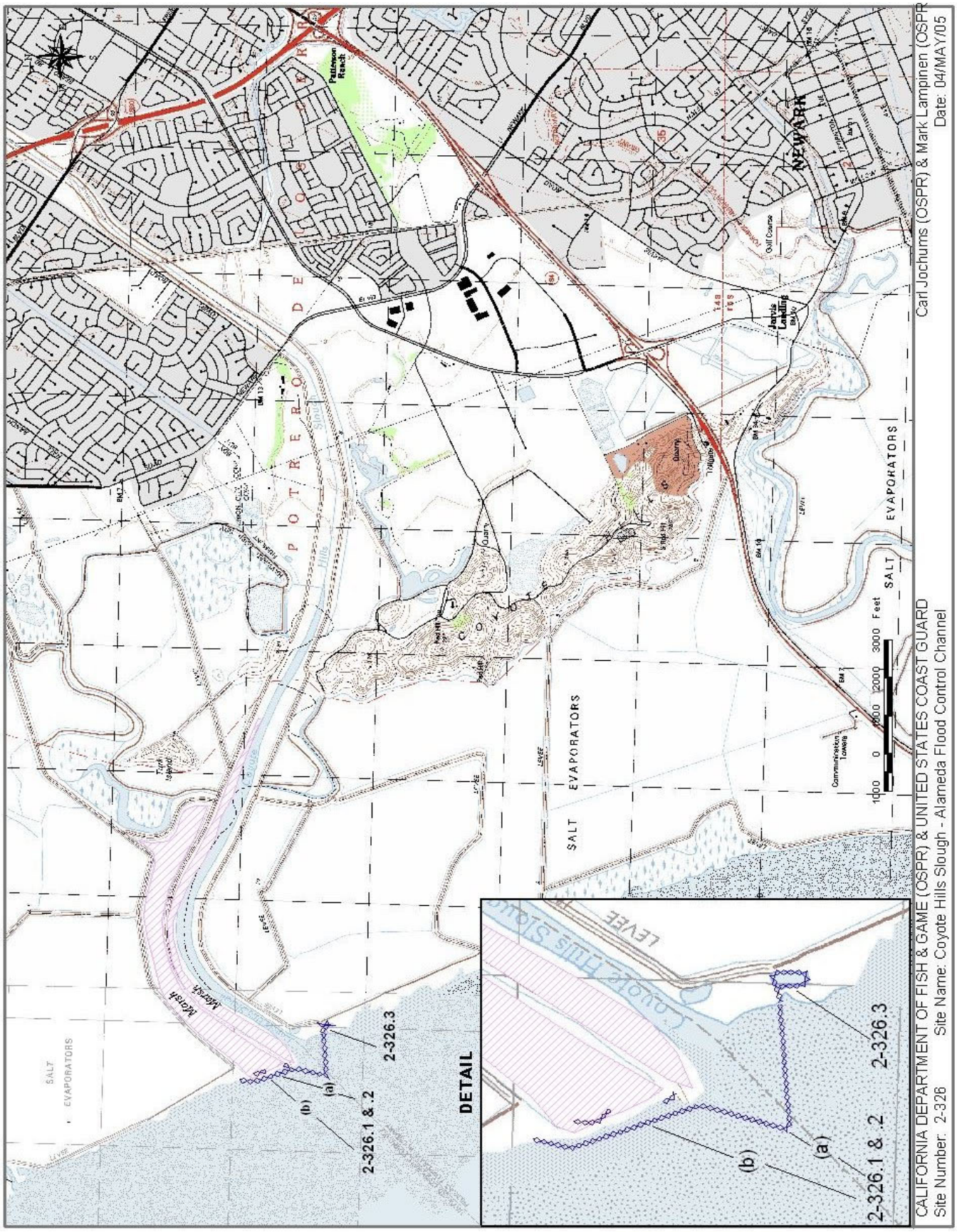
Large staging area available at Redwood City Harbor. Four small local staging on north and south levees at East Bay Regional Park - Alameda Creek Trails (5 acres, parking, chem toilets: 2250 Issherwood, Fremont.) Additional staging area and field post possible at National Wildlife Refuge HQ or EBRP Coyote Hills Regional Park. Full Command Post available throung Alameda County OES.

COMMUNICATIONS PROBLEMS: None

ADDITIONAL OPERATIONAL COMMENTS:

Vehicle access is controlled by Alameda County Flood Control.

2-326 -A Strategy Diagram- Coyote Hills Slough -Alameda Flood Control Channe 2-326 -A



2-328 -A Site Summary- Ideal and USFWS N-5 Marshes 2-328 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**	AAA Hayward - U	3 7 .54	122.12
USGS Quad:	**Newark**	NOAA Chart: **San Francisco Bay, Southern Part**		

Last Page Update : 10/1/2002

SITE DESCRIPTION:

A large contiguous section of marsh located along the east side of south San Francisco Bay and bounded on the north by Coyote Hills Slough (Alameda County Flood Control Channel), on the east by the Coyote Hills, on the south by Highway 84, and on the west by San Francisco Bay. The marsh is surrounded by Cargill salt ponds on three sides and is part of the Don Edwards San Francisco Bay National Wildlife Refuge. The bay front edge of this site is not leveed and is therefore vulnerable to oiling. Mudflats extend 1000's of feet from the site. The site consists of a contiguous salt marsh, approximately 1/4 mile wide, running approximately 1.2 miles along the east bay shoreline beginning from below the mouth of Coyote Hills Slough and surrounded to the north, east and south by three salt ponds. Ideal Marsh is fed by numerous small channels linked directly to the bay and has several small coves which function as natural collection areas.

SEASONAL and SPECIAL RESOURCE CONCERNS

The marsh is an "A" priority all year.

RESOURCES OF PRIMARY CONCERN

Wetlands and tidal flat habitats are present at this site. Endangered California clapper rail is found year round at this site. The salt ponds surrounding the site are heavily used by migratory waterfowl, and shorebirds.

The endangered California clapper rail and salt marsh harvest mouse live in the marshes. Salt marsh habitat and shallows with complement of fauna and flora.

Nesting California gulls are found on levees in the ponds next to Ideal Marsh and represent a concern for response.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA Hayward - U Alameda	San Francisco Bay, Southern Part	3 7 .54	122.12

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The main conerns are the very sensitive marsh and mudflats here, which are almost impossible to cleanup. The intention is to prevent oil from entering the marsh. Avoid distrubing or trampling marsh vegetation. Should oil enter the marsh, expect injury and death of marsh vegetation, small mammals, shorebirds and waterfowl.

HAZARDS and RESTRICTIONS:

Shallow water. Seas to 3 feet. Soft mud.

SITE STRATEGIES

Strategy 2-328.1 **Objective: Deflection booming. Deployment of this strategy should be followed by strategy 2 or 3, as time and resources permit.** ACP DATE 10/1/2005

On an incoming tide or oil coming from the northwest, deploy 2000 ft of harbor boom from northern edge of Ideal Marsh angled to the southwest to divert oil from contacting the marsh. On outgoing tide and oil coming from the south bay or bridge, deploy same length of harbor boom from southwest corner of Ideal Marsh to the northwest. High currents (up to 5kts) require shallow angle for deployment. Can be accomplished with 2 skiffs and 6 people. Shallow draft boom boat would also be useful. Boom can be delivered by truck on levee roads to north and south of Ideal Marsh. Use 50 ft of oil snare, 100ft of sorbent boom to collect oil that may accumulate. Contact IC/UC if oil accumulates in skimmable quantities.

Strategy 2-328.2 **Objective: Exclude oil from entering Ideal Marsh. Should oil enter the marsh, contain oil to the smallest possible area of the marsh.** ACP DATE 10/1/2005

a) Deploy 6500 ft of harbor boom alonf 1.2 miles of Ideal Marsh shoreline. Can be accomplished with 4 skiffs and 12 people. Boom can be delivered by truck on levee roads.
b) Deploy 1000 ft of swamp boom in 100-200ft increments to block inlets to Ideal Marsh. Can be accomplished with 2 skiff and 6 people. Boom can be delivered by truck on levee roads. Inlets to marsh will need to be indentified in the field.

Strategy 2-328.3 **Objective: Oil Recovery by Shoreside skimming** ACP DATE 10/1/2005

Deploy skimmers if oil accumulates in skimmable quantities. Consult with IC/UC prior to the initiation of this strategy.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-328.1	2000		50 OS	100	6	20#w/20'1/2"chain each	1	2				stakes		
2-328.2	6500	1000	0	0	22	20# w/20' 1/2" chain each	0	6	0			stakes		
2-328.3	0	0	0	0	0		0	0	0	vos	0			

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 880 to Newark. Take Highway 84 west to Dumbarton Bridge. Exit at Thorton Ave. and travel south for 0.8 miles to the wildlife refuge entrance on the right on Marshlands Rd. Drive 3 miles to end and then under Dumbarton Bridge to access salt pond levee to Ideal Marsh. An alternate route exists through Coyote Hills Regional Park. Lauch ramp at San Leandro Marina. Take highway 880 to San Leandro. Take Marina Blvd. exit. Go west on Marina Blvd. to San Leandro Marina.

LAND ACCESS: Gravel roads to the bay border the Coyote Hills Slough channel.

WATER LOGISTICS: Shallow Draft Vessels <6'
Limitations: depth, obstruction

Launching, Loading, Docking and Services Available: Boat launching available at Redwood Creek Boat Ramp and San Leandro Marina. Small skiffs may be launched from levees or small boat ramp at Refuge entrance off Thorton Rd.

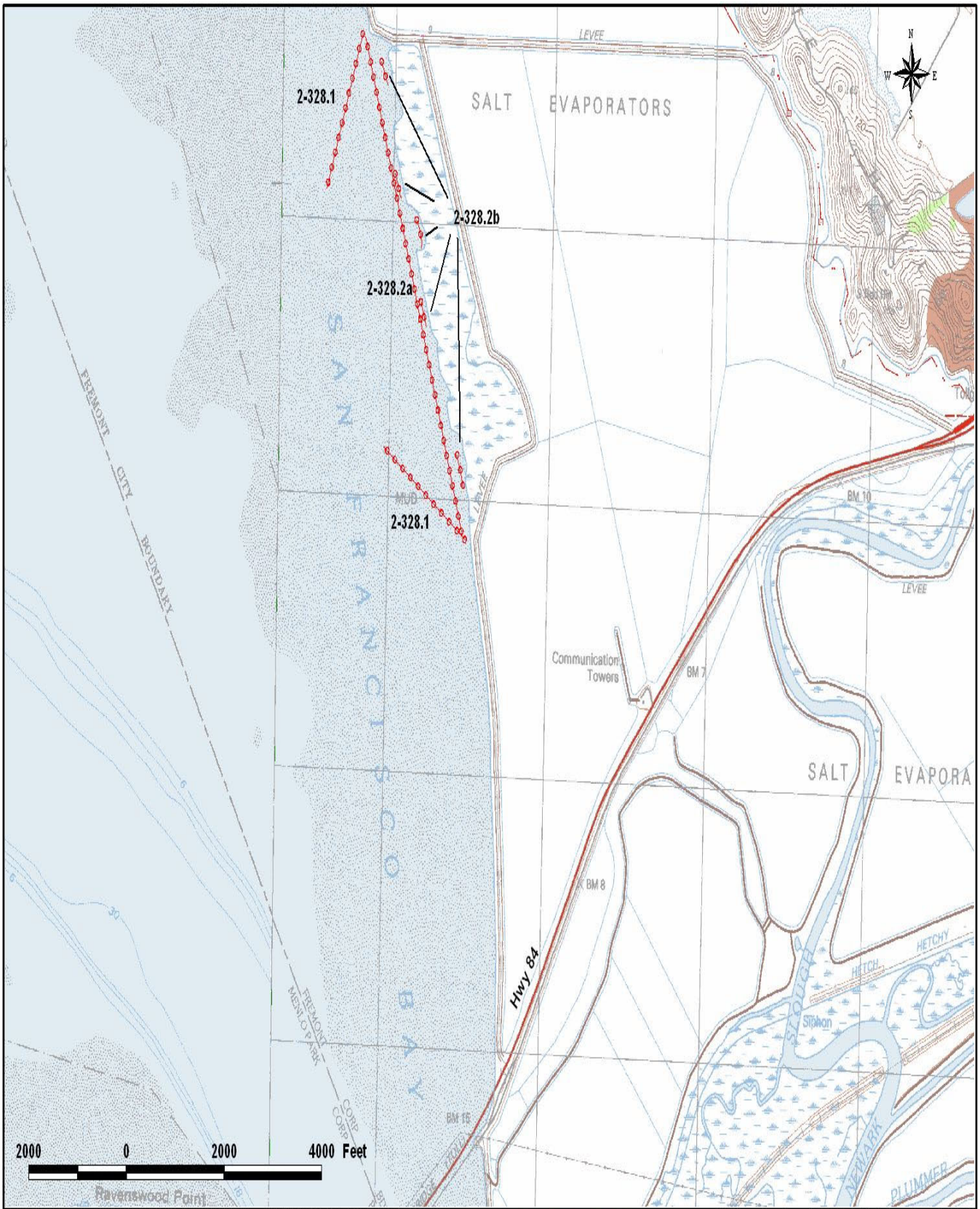
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

This area is all part of the Don Edwards san Francisco Bay National Wildlife Refuge. A small staging area and access is available at the USFWS Headquarters and Vistor's Center on Marshlands Rd.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Vehicle access is controlled by Alameda County Flood Control. Dry season vehicle access on Cargill salt pond levees


2-328.1
2-328.2b
2-328.2a
2-328.1
SALT EVAPORATORS
SALT EVAPORA
SAN FRANCISCO BAY
FREMONT CITY BOUNDARY
LEVEE
MUD
Communication Towers
BM 7
BM 8
BM 10
BM 15
Hwy 84
HETCH HETCHY
Station
NEWARK
PLUMMER
FREMONT MENLO PARK
CORP
Ravenswood Point
2000 0 2000 4000 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME and UNITED STATES COAST GUARD
Site Number: 2-328 Site Name: IDEAL MARSH, COYOTE HILLS SLOUGH to DUMBARTON BRIDGE
D R A F T
Kathleen Jennings (OSPR) & Mark Lampinen (OSPR)
Date:29/JUN/05
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-340 -A Site Summary- Dumbarton Point Marsh/Mudflat

2-340 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**	AAA Fremont - N	37 30.0	122 06.0
USGS Quad:	**Mountain View**	NOAA Chart: **18654 San Francisco Bay Southern Part**		

Last Page Update : 7/1/1996

SITE DESCRIPTION:

A large contiguous section of marsh located along the east side of south San Francisco Bay and bounded on the northwest by the Southern Pacific Railroad levee, the east by Newark Slough, and the south and west by San Francisco Bay. This is a marsh with many primary slough channels entering the marsh from its southern shore. These channels present an opportunity for oil to enter the interior of the marsh. There is a wild mudflat between the main channel of the bay and the marsh. This site is part of the San Francisco Bay National Wildlife Refuge.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority year-round due to salt marsh, mudflat, and special status species habitat.

RESOURCES OF PRIMARY CONCERN

This marsh is one of the most important California clapper rail nesting areas in the south bay and a harbor seal haul out area

Endangered California clapper rail, California brown pelican, peregrine falcon are found at the site. California Species of Special Concern: the saltmarsh common yellowthroat is present. Shorebirds, waterfowl, wading birds, water birds, raptors are found at the site.

A California Species of Special Concern, salt marsh wandering shrew is present at the site

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA Fremont - N Alameda	18654 San Francisco Bay Southern Part	37 30.0	122 06.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is to prevent oil from being carried into the marsh via large and small tidal channels and minimize oiling of marsh fronts. Should oil enter the marsh there will be injury and death of marsh vegetation, small mammals, shorebirds and waterfowl, including endangered and threatened species. There is also the concern that response and cleanup activity will result in trampling of marsh, trampling of oil into sediments, and disturbing wildlife. Please exercise appropriate caution.

HAZARDS and RESTRICTIONS:

Railroad Bridge, Dumbarton Bridge, powerline and towers, shallow water, soft mud can all be hazards to response activity.

SITE STRATEGIES

Strategy 2-340.1 **Objective: Exclude oil from entering marsh front, mudflat, and small channels to the marsh interior.** ACP DATE 7/1/1996

"Plug" nine small slough channels with approximately 2000 ft of fence boom or 4x4 swamp boom and sorbent booms. Block culvert near pump house with earth or steel plate.

Strategy 2-340.2 **Objective: Deflection Booming** ACP DATE 7/1/1996

Deploy approximately 3000 ft of deflection boom off mudflats in 1000ft sections.

Strategy 2-340.3 **Objective: Protection booming of shoreline** ACP DATE 7/1/1996

Line marsh front with bushy boom and/or sorbent boom. Harbor boom at shelf break.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-340.1	0	2000					2	3				10	
2-340.2	3000				20	20-25#w/10'chain each	3	1				11	
2-340.3	0			8000			5	3			Sand bags, shovels, 2,000' 3/8" line	18	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Hwy 880 to Hwy 84 West. Thornton Ave. exit south to Marshlands Rd. Take Marshlands Rd. out to bay front near foot of Dumbarton Bridge. Access levee road via contact with San Francisco National Wildlife Refuge HQ. Nearest large boat ramp is at Redwood City, small boat launch near Refuge HQ on Newark Slough. A large contiguous section of marsh located along the east side of south San Francisco Bay and bounded on the northwest by the Southern Pacific Railroad levee, the east by Newark Slough, and the south and west by San Francisco Bay.

LAND ACCESS: All access levels ok

WATER LOGISTICS: Wide mudflats, shallow water
Limitations: depth, obstruction

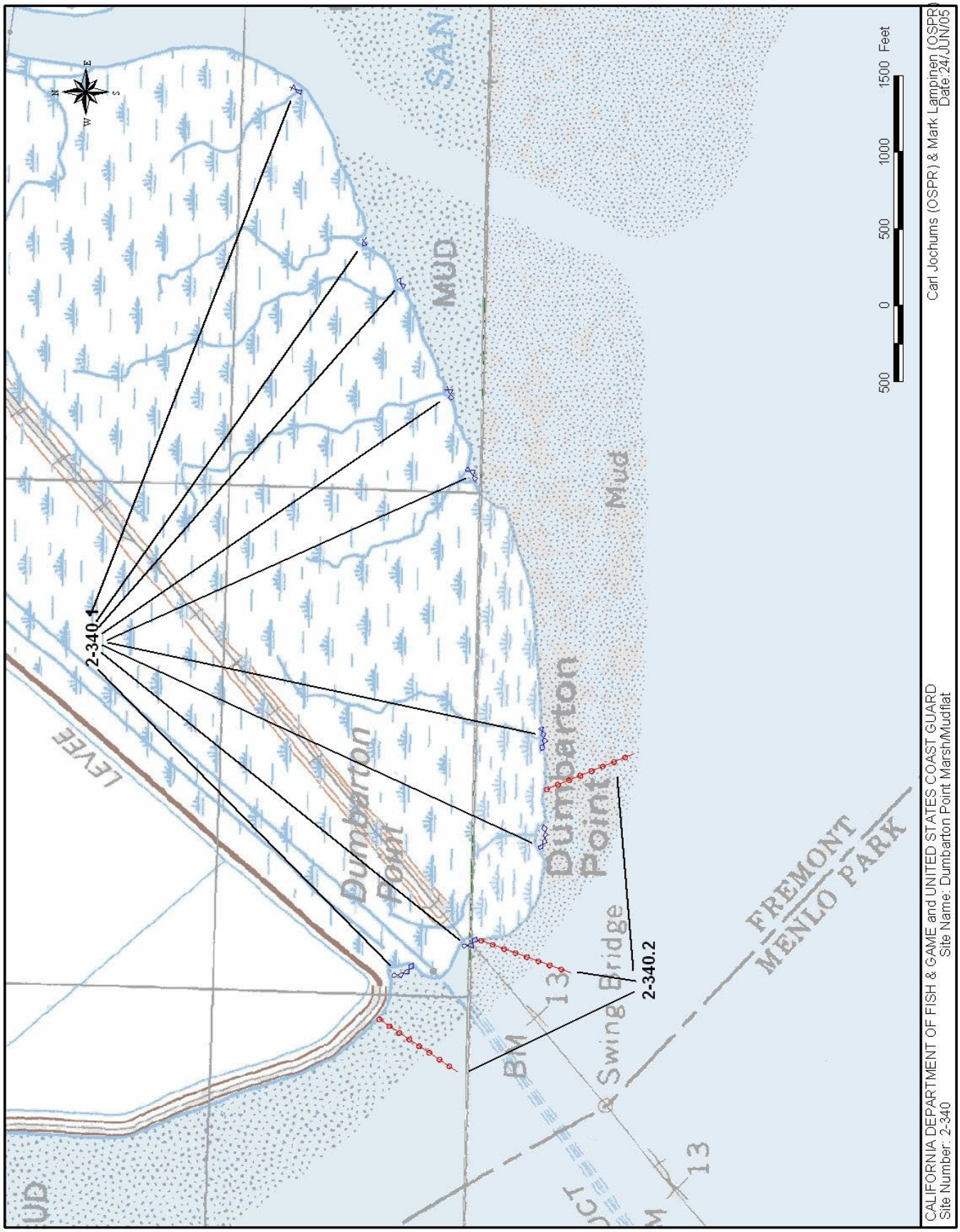
Launching, Loading, Docking and Services Available: Nearest large boat ramp is at Redwood City, small boat launch near San Francisco National Wildlife Refuge HQ on Newark Slough.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Large staging area available at Redwood City Harbor. Small staging area and field post possible at National Wildlife Refuge HQ. Command Post available at Alameda County OES.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


SAN
MUD
Mud
2-340.1
2-340.2
LEVEE
Dumbarton Point
Dumbarton Point
FREMONT
MENLO PARK
Swing Bridge
BM 13
13
1500 Feet
1000
500
0
500
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:24/JUN/05
CALIFORNIA DEPARTMENT OF FISH & GAME and UNITED STATES COAST GUARD
Site Name: Dumbarton Point Marsh/Mudflat
Site Number: 2-340
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

County:	Thomas Guide Location	Latitude N	Longitude W
Alameda	AAA Fremont - N	37 30.0	122 05.0

USGS Quad: **Mountain View**

NOAA Chart: **18654 San Francisco Bay Southern Part**

Last Page Update : 7/1/1996

SITE DESCRIPTION:

Newark Slough and Plummer Creek join and form one outlet to South San Francisco Bay two miles SE of Dumbarton Bridge. Extensive salt marsh areas with numerous tidal channels extend over a mile to the north and south of the inlet. The entire area including much of the offshore mudflats is part of the USFWS San Francisco Bay Wildlife Refuge. Mudflats are shallow and extensive and are cut with deep tidal channels. Bay frontage is cordgrass marsh. Newark Slough and Plummer Creek are leveed and bordered by Cargill salt ponds.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority year-round for marshes, harbor seals, and California clapper rail.

RESOURCES OF PRIMARY CONCERN

The endangered California clapper rail, California brown pelican, California least tern, and American peregrine falcon are present at the site.

The endangered saltmarsh harvest mouse is present. Harbor seals use the west shore of Newark Slough near the mouth as a haulout and rookery area. There is a moderate risk year round and high risks to pups during lactation due to possible ingestion of petroleum products from female's fur. Spring breeding season runs from approximately 15 March - 10 June. Lactation period is 3 to 5 weeks long. Spring approximately 100 adults and pups; Fall/Winter approximately 5-40 seals

Species of Special Concern: Hairless Allocarya aka Hairless popcornflower plant (Plagiobothrys glabir).

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location: AAA Fremont - N Alameda

NOAA CHART: 18654 San Francisco Bay Southern Part

Latitude N: 37 30.0 Longitude W: 122 05.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The primary concern is oil penetrating the marsh by being carried up creeks and small tidal channels. The secondary concern is oiling of harbor seals and impacts to marsh plants and wildlife. First objective is to exclude oil from entering marsh via tidal channels; secondary objective is to deflect oil away from marsh; and the final objective is protective booming of marshfront. There is always the concern that response and cleanup activity will damage marshes: trampling of vegetation, trampling oil into sediments, and disturbing wildlife.

HAZARDS and RESTRICTIONS:

Shallow water. Levee roads impassable in winter.

SITE STRATEGIES

Strategy 2-342.1 Objective: Exclusion/Diversion boom to prevent oil from entering channel between bay and site.

ACP DATE 7/1/1996

a. Offshore skimming by on-water task force (see GRP-2-400).
b. Deflection booming off mudflat break with harbor boom.
c. "Plug" small finger sloughs and channels inside Newark Slough with fence boom, sorbent, and swamp boom.
d. Deploy curtain boom from west side of mouth back into Plummer Creek's eastern shore. Also deploy harbor boom along east shore of mouth from bayfront back to skimmer pocket.
e. Use skimmer in channel or possibly vac truck with skimmer from shore levee in Plummer Creek (dry season only).

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-342.1	8000	1000		5000	40	40-25#w/10'chain each	14	4	1		hovercraft	18	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Hwy 880 south to the Thornton Avenue exit. Proceed east on Marshland Road. Need San Francisco National Wildlife Refuge assistance for access via Levee Road. Access to Newark Slough possible through the Cargill Plant.
NOTE: Access to levee only during dry months. Access may be limited to small vehicles. Tractor trailer rigs may not be able to access area. Newark Slough and Plummer Creek join and form one outlet to South San Francisco Bay two miles SE of Dumbarton Bridge. Extensive salt marsh areas with numerous tidal channels extend over a mile to the north and south of the inlet.

LAND ACCESS: 2WD,4WD,ATV,FT DRY SEASON ONLY, hovercraft in wet season

WATER LOGISTICS: SHALLOW DRAFT VESSELS <6'
Limitations: depth, obstruction

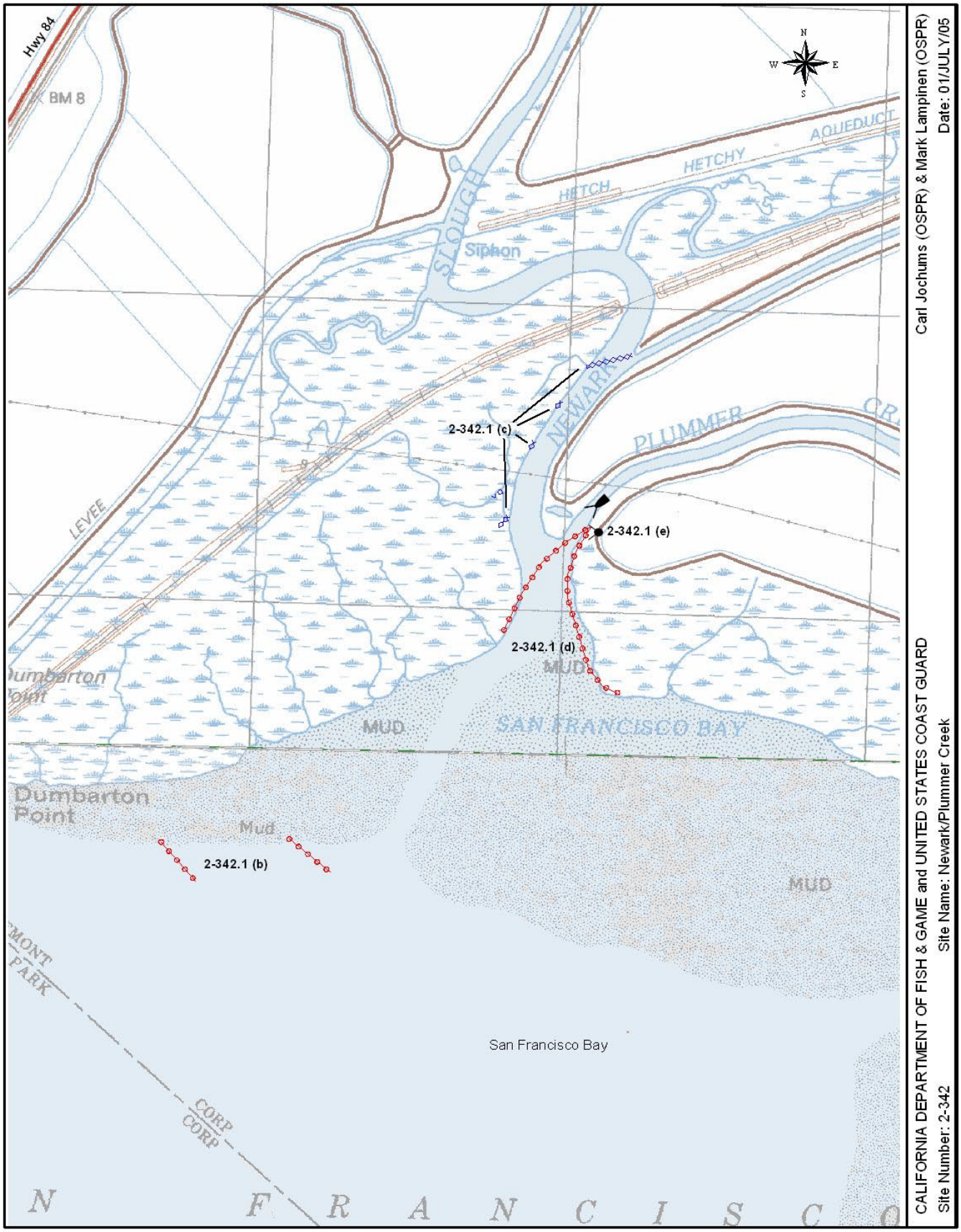
Launching, Loading, Docking and Services Available: Launch ramps at Redwood City for large vessels
Small boat launch (punts, airboats, kayaks) at SFBNWR HQ on Newark Slough

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Large staging area available at Redwood City Harbor. Small staging area and field post possible at National Wildlife Refuge HQ. Command Post available at Alameda County OES.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-344 -A Site Summary- Mowry Slough

2-344 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	**Alameda**	AAA Fremont - N	37 29.0	122 02.0
USGS Quad:	**Mountain View**	NOAA Chart: **18654 San Francisco Bay Southern Part**		

Last Page Update : 7/1/1996

SITE DESCRIPTION:

A large linear marsh along the east side of south San Francisco Bay bounded on the northwest by Newark Slough, on the east by Cargill salt pond levees, and on the west by San Francisco Bay.

The slough is a channel bordered by mudflats and marshes. The adjacent pickleweed and cordgrass marshes are included in this site (see above). Many primary slough channels are present along its length, conveying water into the interior portions of the marsh. Much of this site is included in the USFWS South San Francisco Bay National Wildlife Refuge.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority for protection year-round due to extreme vulnerability of saltmarsh and special status species/habitat (see below).

RESOURCES OF PRIMARY CONCERN

This is an extensive cordgrass marsh with pickleweed in the higher intertidal marsh.

The endangered California clapper rail (This is one of the most important California Clapper rail nesting areas in the So. Bay), American Peregrine falcon, and California Brown pelican are present.
A CA Species of Special Concern that is present is the Salt Marsh Common Yellowthroat.
Shorebirds, waterfowl, wading birds, waterbirds, raptors are present at the site.

The endangered salt marsh harvest mouse is present as is a CA Species of Special Concern, the Salt Marsh Wandering Shrew, and harbor seals - can reach 350 adults and 100 pups during spring breeding season, and 70 seals during fall/winter. This is also the primary harbor seal rookery in SF bay.
Fish .

Invertebrates.

Pickleweed and cordgrass marshes

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Ohlone cultural sites are nearby. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Baylands Nature Preserve Office	Baylands Nature Preserve	(650) 329-2506
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA Fremont - N Alameda	18654 San Francisco Bay Southern Part	37 29.0	122 02.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is to prevent oil from being carried into the marsh via large and small tidal channels and minimize oiling of marsh fronts. Should oil enter the marsh there will be injury and death of marsh vegetation, small mammals, shorebirds and waterfowl, including endangered and threatened species. There is also the concern that response and cleanup activity will result in trampling of marsh, trampling of oil into sediments, and disturbing wildlife. Please exercise appropriate caution.

HAZARDS and RESTRICTIONS:

Levee roads impassable in winter. Shallow water. Seas to 2 feet.

SITE STRATEGIES

Strategy 2-344.1 **Objective: Deflect oil from marshes to be recovered on-water by skimmers. Prevent oil from entering the slough.**

ACP DATE 7/1/1996

a. Offshore mechanical collection with on-water recovery task force.
b. Use 18" curtain boom or double layers of smaller boom to deflect oil from marshes into skimmer in Mowry Slough channel near mouth.
c. "Plug" small slough channels along marshfront w/ fence boom or 4x4 swamp boom and sorbent booms.
d. Line marsh front with bushy boom (oil snare) and/or sorbent booms.
e. If possible use curtain boom at mudflat shelf break to deflect oil away from slough channel.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-344.1	1000	10000			50	50-25#w/10'chain each	4	3	1	self pro		hovercraft	18	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Access area through Cargill Plant (from north) and Durham Landfill (from south).

LAND ACCESS: 2WD,LG truck,4WD,ATV dry season, hovercraft in wet season

WATER LOGISTICS:
Limitations: depth, obstruction: Shallow draft vessels <6'

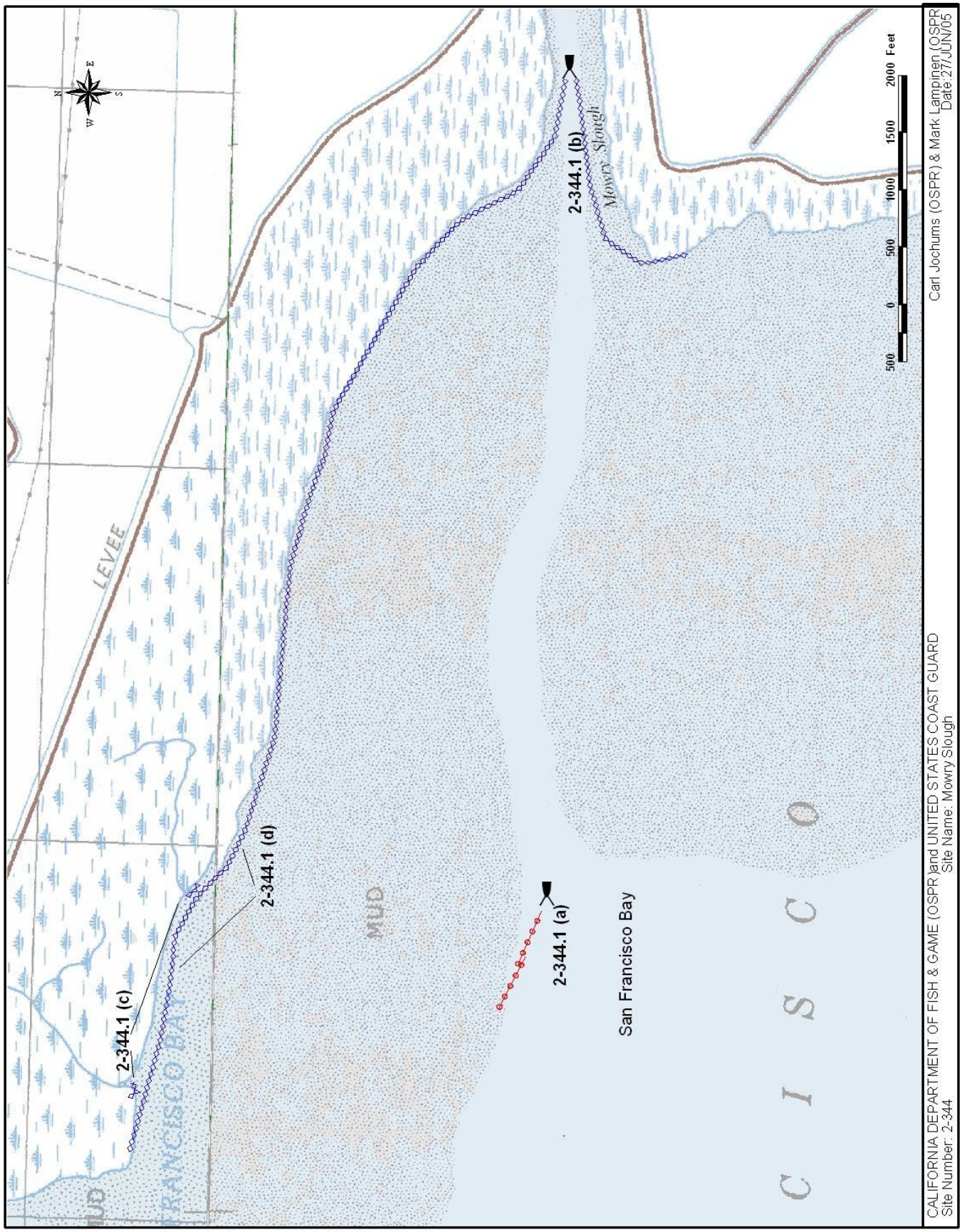
Launching, Loading, Docking and Services Available: Vessel launch ramp and services at Redwood City. Small vessels may launch in Newark Slough near National Wildlife Refuge HQ at high tide.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Large staging area available at Redwood City Harbor. Small staging area and field post possible at National Wildlife Refuge HQ. Command Post available at Alameda County OES.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


2-344.1 (b)
Mowry Slough
2-344.1 (d)
2-344.1 (c)
2-344.1 (a)
San Francisco Bay
LEVEE
MUD
2000 Feet
1500
1000
500
0
500
Carl Jochums (OSPR) & Mark Lampinen (OSPR
Date:27JUN05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR)and UNITED STATES COAST GUARD
Site Name: Mowry Slough
Site Number: 2-344
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-346 -A Site Summary- Coyote Creek 2-346 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Alameda, Santa Clara		37 28.0	122 02.0
USGS Quad:	Mountain View	NOAA Chart:	18654 San Francisco Bay Southern Part	

Last Page Update : 7/1/1996

SITE DESCRIPTION:

This site extends from the mouth of Coyote Creek at the southeast corner of South San Francisco Bay upstream to Hwy 237 and includes all marshes and tributaries not included in other sites. Coyote Creek is the primary drainage for the Santa Clara Valley. The mouth is five miles southeast of the Dumbarton Bridge and the mouth is over a mile wide. Extensive marshes and mudflats occur near its mouth and along the creek's shores. The mudflat along the north shore has deeply carved channels (5 ft +) from the marsh to the deep water channel. Alviso Slough branches off its south side not far from the mouth.

SEASONAL and SPECIAL RESOURCE CONCERNS

This site is "A" priority year-round as are all marshes, because of vulnerability of marsh plants and wildlife to oil.

RESOURCES OF PRIMARY CONCERN

There are extensive marshes and mudflats along the creek containing pickleweed and cordgrass. These marshes support a rich marsh flora and fauna including T&E species.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include the endangered salt marsh harvest mouse and a species of special consern - the salt marsh wandering shrew. Harbor seals haul out along north side of creek.

The intertidal mudflats are important to fish and shellfish, primarily clams

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Alameda, Santa Clara	18654 San Francisco Bay Southern Part	37 28.0	122 02.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is to stop oil from entering (or, if oil originates inland, leaving) the Creek by exclusion booming the mouth. Once oil has entered the creek, the concern is that oil will be transported to the interior of bordering marshes via the deep side tidal channels. If marshes become oiled, concerns are that marsh may become damaged by cleanup and foot traffic and oil may be trampled into sediments. Minimize damage to plants, wildlife and birds from foot traffic.

HAZARDS and RESTRICTIONS:

Aircraft, beware of overhead power lines and towers. Vessels beware of shallow water.

SITE STRATEGIES

Strategy 2-346.1 Objective: Deflect oil away from marshes, keep oil in deep water channel & skim ACP DATE 7/1/1996

a. Deflection boom placed off NW point at creek mouth. Possibly use 8000 ft of 4x4 swamp boom across marsh and mudflat then connect to harbor boom in channel to deflect oil away from marsh and mudflats into deep water channel.
b. Short segments of harbor boom deflection can be placed along north side mudflat to keep oil in channel. Can use powerline tower supports as boom attachment points.
c. Skimmers (3 SPS) to operate at mouth of Coyote Creek, at split of Alviso Slough and Coyote Creek.

Strategy 2-346.2 Objective: exclusion of mouths of small tidal channels to inner marshes. ACP DATE 7/1/1996

"Plug" small slough channels along marshfront on N. side with approximately 400 ft of fence boom or 4x4 swamp and sorbent booms.

Strategy 2-346.3 Objective: Protective booming of windward shores to prevent oil from being carried into marshes by wave and tidal action ACP DATE 7/1/1996

Line marshfront with 4000 ft of bushy boom, oil snare, swamp boom, or sorbent boom.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-346.1	8000	200			30	many large	8	3	3	SPS		30	
2-346.2	0	400		400	25	many + stakes	1	1				8	
2-346.3	0	4000	4000 SN										

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Hwy 880 south and exit at West Warren Avenue. Turn right on West Warren Avenue and follow it to Fremont Blvd. Turn right on Fremont Blvd. and left on the next road. Follow this road to where it crosses a dirt road. Turn right and follow this road to where it crosses Coyote Creek (first collection point) and follow it across to the dead end slough to the second collection point. Access to Coyote Creek and Mowry Slough is possible through Durham Landfill off of Automall Road. South side access available through Alviso to Cargill and refuge property. This site extends from the mouth of Coyote Creek at the southeast corner of South San Francisco Bay upstream to Hwy 237 and includes all marshes and tributaries not included in other sites.

LAND ACCESS: 2WD,LG TRK,4WD,ATV When levees are dry.

WATER LOGISTICS: Very shallow, beware of tides.
Limitations: depth, obstruction

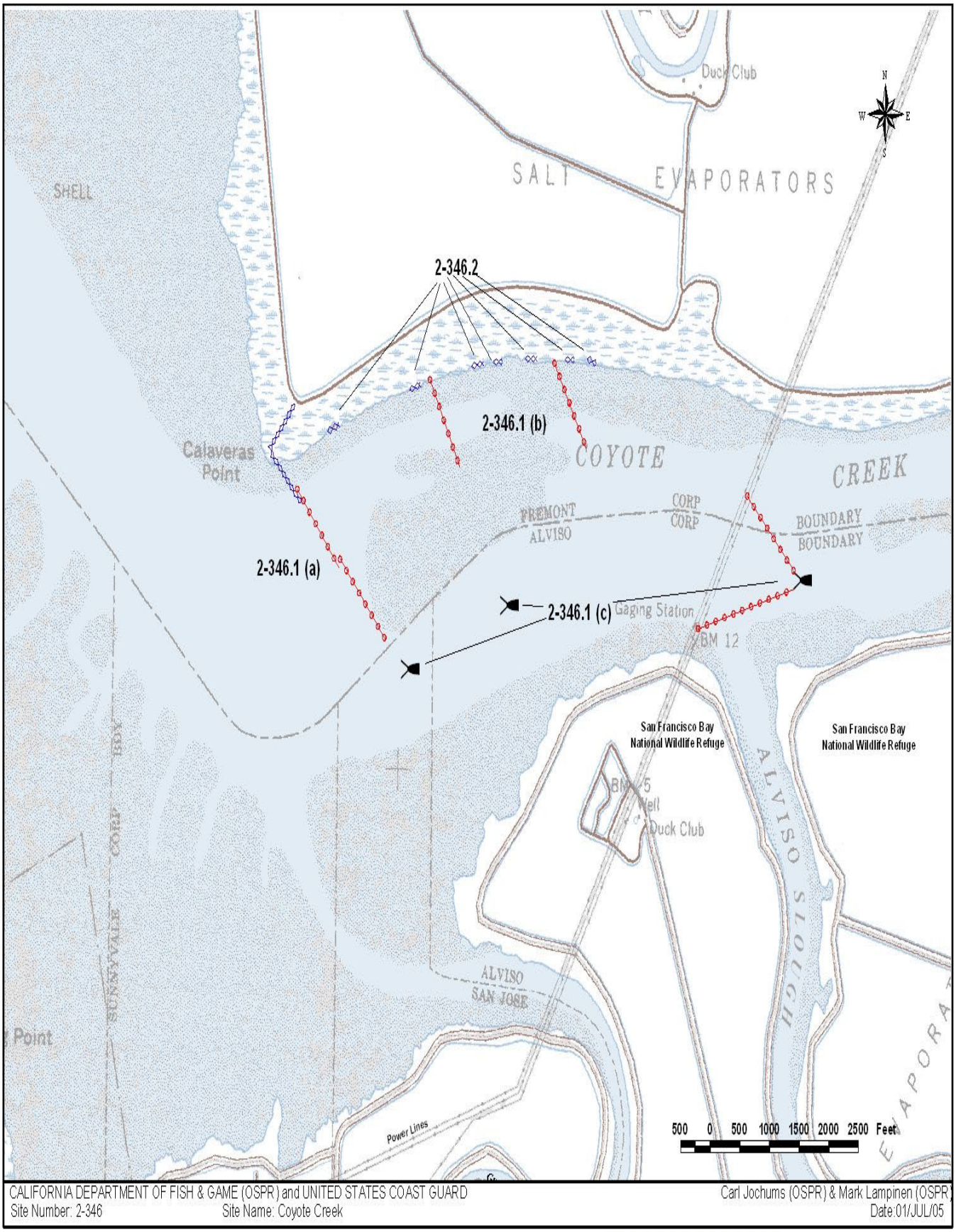
Launching, Loading, Docking and Services Available: Launch ramp at Redwood City and possibly at Alviso Slough for ġ□smaller boats at high tide.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

USFWS South Bay Refuge may be a useful field post and staging area. Cargill Salt is another proximal location providing use can be negotiated.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Francisco	AAA - San Franc	3 7 46	122 23
USGS Quad:	San Francisco North	NOAA Chart: Entrance to San Francisco Bay		

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site is the shoreline of San Francisco from Bay Bridge south to Islas Creek at Pier 90. This shoreline consists of man-made structures including piers, seawalls and riprap. The bottom of the channels generally consists of soft sediments. Currents can be strong, approaching 6 knots.

SEASONAL and SPECIAL RESOURCE CONCERNS

Herring spawn during the winter (November through April). There are economic concerns throughout.

RESOURCES OF PRIMARY CONCERN

Aquatic vegetation and invertebrates growing on pilings, seawalls and riprap may be injured by oil and cleanup activities. Herring spawn on these surfaces during the winter months.

Sea birds are present throughout the year.

Herring spawn here in the winter. Fish are present throughout the year.

Algae and invertebrates live on all hard surfaces

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Carol Bach	Port of San Francisco	(415) 274-0568
	Richard Lee	SF Dept Public Health	

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA - San Franc San Francisco	Entrance to San Francisco Bay	3 7 46	122 23

Last Page Update : 8/1/2005

CONCERNS and ADVICE to RESPONDERS:

This collection strategy should be used to take advantage of the slow water between piers and the boats at anchor to divert oil out of swifter along shore currents to shoreline where collection is possible.

HAZARDS and RESTRICTIONS:

There are sunken obstructions to navigation in many areas, sunken vessels and old pier pilings.

SITE STRATEGIES

Strategy 2-350.1 Objective: Economic Objective: Exclude from intaks pier 72 - stop oil from entering the p plnt coling water intak.

ACP DATE 10/1/2005

Deploy 1000 feet of harbor boom along the shore from the foot of pier 70 to the southeast corner of pier 72, anchoring the ends at the pier or seawall. Anchor the middle of this boom 50 to 100 feet offshore.

Strategy 2-350.2 Objective: Deflection to Collection for shoreside skimming

ACP DATE 10/1/2005

600 feet of boom may be deployed from the southeast corner of pier 70 to collect oil on the flood tide. Use sorbent to back the collection pocket. The oil may be collected against the seawall north of the p plant intake. Alternative is deflected to a self propelled skimming vessel.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-350.1	1000				3	22#+	1	1					8	
2-350.2	600	0	0	100	0		1	1	1	SSS	0		5	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Boat launch ramp near Pier 50 at Mission Rock Resort, 817 China Basin St. Shoreline access from the Embarcadero and China Basin St. This site is the shoreline of San Francisco from Bay Bridge south to Islas Creek at Pier 90.

LAND ACCESS: There is access for large trucks on most piers and seawalls.

WATER LOGISTICS: There are sunken obstructions to navigation.

Limitations: depth, obstruction

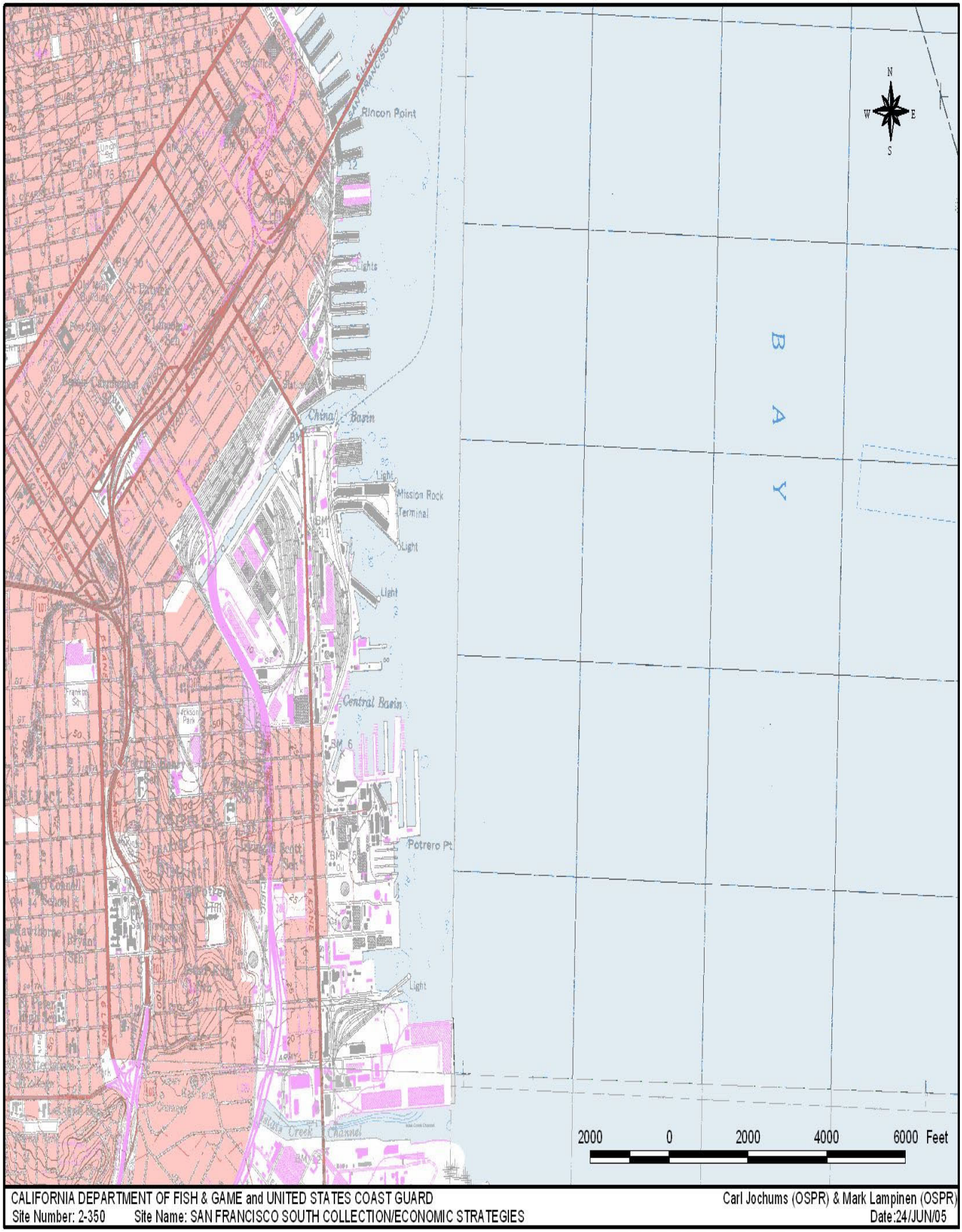
Launching, Loading, Docking and Services Available: Boat launching is available near Pier 50 at Mission Rock Resort, 817 China Basin St.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Flat paved areas for staging and field posts are common throughout this area.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


Rincon Point
China Basin
Mission Rock Terminal
Central Basin
Potrero Pt
B A Y
N
W
E
S
2000 0 2000 4000 6000 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME and UNITED STATES COAST GUARD
Site Number: 2-350 Site Name: SAN FRANCISCO SOUTH COLLECTION/ECONOMIC STRATEGIES
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:24/JUN/05
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Francisco	AAA - San Franc	3 7 46	122 23
USGS Quad:	Oakland, West	NOAA Chart: Entrance to San Francisco Bay		

Last Page Update : 1/1/1994

SITE DESCRIPTION:

Yerba Buena Island is the prominent rocky island mid-span of the Bay Bridge. The sensitive portion of the shoreline is the southerly shore from the lighthouse at the south tip to just north of the west Bay Bridge span (just short of the underwater cable crossing). There are small cobble pocket beachs on the south side of the island which are used by pinnipeds and birds.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" protection priority during harbor seal pupping season 15 March to 10 June, "B" priority balance of the year.

RESOURCES OF PRIMARY CONCERN

Coarse grain beaches and steep rocky slopes are habitat for pinnipeds and birds.

Although this area is used for resting for birds, primary sensitivity is pinniped use.

Harbor seal rookery during spring when 30 to 50 seals use the site when tide is below +3 feet above mean lower low water. 100 to 250 seals haul out at this site during the winter.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
	C. Spencer	SF St. Universtiy	(415) 252-0291

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
AAA - San Franc San Francisco	Entrance to San Francisco Bay	3 7 46	122 23

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oiling of beach where oil will become hazardous to seals using the site. Injury and death to be expected if harbor seal pups inhale or ingest oil. There is high risk of pups ingesting oil while nursing if mothers become oiled. Minimize disturbance of seals during deployment.

HAZARDS and RESTRICTIONS:

Potential for 3 foot seas. Most of the water is very deep close to shore but there are occasional rocks and pilings. There are underwater cables just north of the Bay Bridge. Approach by foot is extremely hazardous because of steep cliff face.

SITE STRATEGIES

Strategy 2-351.1 Objective: Protective booming of beach and rocks used by seals.

ACP DATE 10/1/2005

Deploy 3,000 feet of harbor boom parallel to the shoreline around the south side of the island to keep oil off the pocket beaches between lighthouse point and the west span of the Oakland Bay Bridge. Great care must be taken to prevent oil from getting behind the boom at either end throughout the tidal cycle. A 200 foot deflection boom should be in place at the west end of the boom during the flood tide. (A similar deflection may be necessary at the east end of the boom under some wind and tide conditions.)

Anchoring Recommendations: Waters are very deep at the shore and there are relatively few obstructions. The east end of the boom may be fastened or anchored off the the lighthouse (there is an EYE bolt embedded in the rock below the lighthouse which may be helpful). The west end of the boom should be anchored west of the sand and gravel beaches just south of the western span of the Bridge. Few midpoint anchors are needed because the boom is deployed parallel to straight shorelines and currents are minimal near the shoreline. (Although the tidal currents are strong, they run parallel to the shore in these areas.) Midpoint anchors are needed primarily to keep the boom off the shoreline. Danforth anchors are satisfactory in the soft bottoms off the beaches where seals haul out, but Northhill anchors should be used on the rocky bottom below the lighthouse. The boom may be attached to the dolphin pilings off the beaches.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-351.1	3000				7	7/25# w/ 20' 1/2" chain	3	1		1	3000' 1/2" anchor line	11	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Boat access is designated method of approaching this site. Foot access to pocket beaches is either minimal, extremely dangerous, or impractical due to steep cliffs. There is vehicle access to site: take Highway 880 to westbound Highway 80; get on the Oakland Bay Bridge; while still on the Bridge take the Yerba Buena Island exit (Hillcrest Rd); follow signs to the USCG Station. There is access for foot traffic from parking lot above vice-admiral's house; walk south to cliff or lighthouse and descend to beach. Yerba Buena Island is the prominent rocky island mid-span of the Bay Bridge. The sensitive portion of the shoreline is the southerly shore from the lighthouse at the south tip to just north of the west Bay Bridge span (just short of the underwater cable crossing).

LAND ACCESS: Poor to impossible access from land by foot only.

WATER LOGISTICS:
Limitations: depth, obstruction — Water is deep and fairly unobstructed along this margin.

Launching, Loading, Docking and Services Available: Estuary Park & Fifth Ave. Marina, Oakland; Ballena Isle Marina, Alameda; Emeryville Marina; Berkeley Marina, Berthing at Treasure Island Marina. There is a boat launch at the Treasure Island Yacht Club.

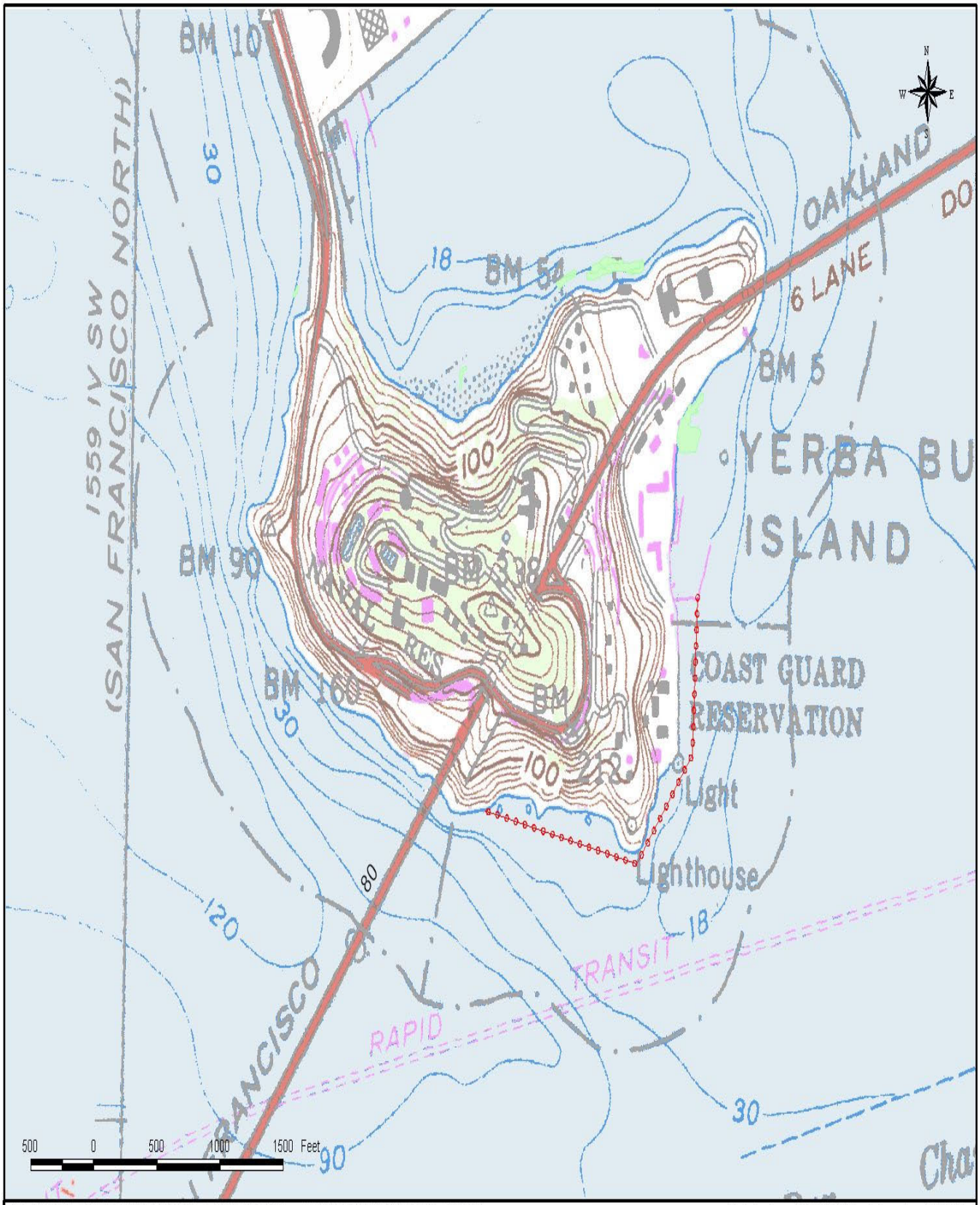
FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Space for large staging area, and field post or Command Post is available on Treasure Island. Contact YBI USCG for boom staging at USCG base.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:

Bottom type - hard mud, shell, rocks. Possible staging and collection site at USCG station or US Navy facility. Boom (slick bar) on-scene in water at Treasure Island Navy docks. Contact USCG at YBI and US Navy at TI.



CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-351 Site Name: Yerba Buena Island

Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:11/JUL/05

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

Site Summary- South Basin, Hunters Point

2-352 -B

Thomas Guide Location	Latitude N	Longitude W
	3 7 43	122 23

County: San Francisco

USGS Quad: San Francisco South

NOAA Chart: 18649/18650 Entrance to SF Bay

Last Page Update : 10/1/2002

SITE DESCRIPTION:

South Basin lies between Hunter's Point and Candlestick Point on the San Francisco Peninsula. At the head of South Basin is a narrow fringing marsh and mudflat, shores along Candlestick Point are sandy beaches and riprap, the remainder of the shoreline is concrete slab riprap.

SEASONAL and SPECIAL RESOURCE CONCERNS

"B" protection priority year round. During the fall and winter months, high concentrations of waterfowl (1,000's) and migratory shorebirds are present.

RESOURCES OF PRIMARY CONCERN

There are fringe marshes and tidal mudflats of importance at this site.

Waterfowl and shorebirds use this site throughout the year but particularly in winter when large numbers gather here. During the fall and winter months, high concentrations of waterfowl (1,000's) and migratory shorebirds are present.

Eelgrass beds are present.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	DPR DISPATCH	CA State Parks, Candlestick Point (SRA)	(800) 548-1431

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco	18649/18650 Entrance to SF Bay	3 7 43	122 23

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

This site is used by large numbers of birds, particularly in fall/winter, and there are marshes and mudflats which are vulnerable to oiling. The primary concern is to keep oil out of pocket coves by exclusion booming and collection. Always a concern is that response and cleanup will result in impacts: avoid disturbing wildlife, trampling vegetation, tearing up eelgrass beds with anchors and boat props, and tracking oil into marsh and mudflat sediments.

HAZARDS and RESTRICTIONS:

Vessels beware of shallow waters and obstructions.

SITE STRATEGIES

Strategy 2-352.1 **Objective: Exclusion/protection booming to prevent oil from reaching marsh in South Basin or beaches at Candlestick Point.** ACP DATE 7/1/1996

a. Deploy 1,300 - 1,500 ft. of curtain boom across narrowed opening to inner South Basin to exclude oil from marsh and mudflat. Place skimmer at apex of boom if oil collects here.
b. Deploy 2,000 ft of curtain boom in a J-hook configuration from middle point at the opening of the inner South Basin to the inside of Candlestick Point. Place skimmer or vacuum truck hose at J-hook pocket near shore if oil collects here.

Strategy 2-352.2 **Objective: Deflect oil away and past site.** ACP DATE 7/1/1996

Deploy deflection with 500 ft of curtain boom off end of Navy pier.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-352.1	3500				5	5 / 22+/ Danforth with chain	3	0	2	SFS/SS	*shallow draft Bboat	15	
2-352.2	500				2	2/22+/danforth	1	0			*shallow water Bboat	3	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Site is south of San Francisco at Candlestick Point area. Exit Hwy 101 at Candlestick (3Com Park) exit and proceed bayward past 3COM Stadium to Candlestick Point State Recreation Area. South Basin lies between Hunter's Point and Candlestick Point on the San Francisco Peninsula.

LAND ACCESS: Good access all types: contact Park Maintenance.

WATER LOGISTICS: Shallow water and obstructions.
Limitations: depth, obstruction

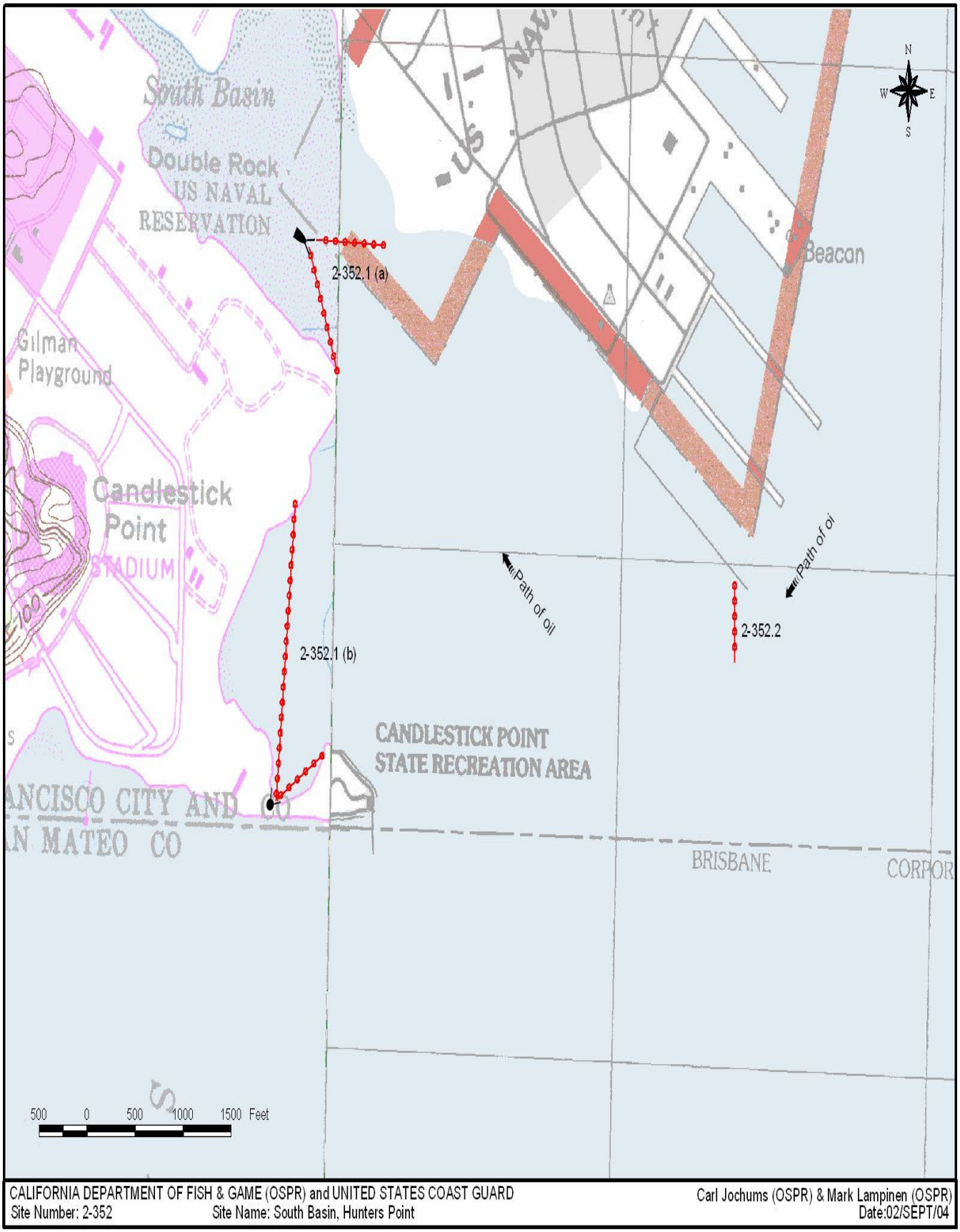
Launching, Loading, Docking and Services Available: Oyter Pt marina, ramps near piers 70 and 50.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Candlestick Point. Access restricted from land for heavy trucks. Contact Park Maintenance.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


South Basin
Double Rock
US NAVAL
RESERVATION
Gilman
Playground
Candlestick
Point
STADIUM
Beacon
2-352.1 (a)
2-352.1 (b)
2-352.2
Path of oil
Path of oi
CANDLESTICK POINT
STATE RECREATION AREA
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500 0 500 1000 1500 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-352
Site Name: South Basin, Hunters Point
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:02/SEPT/04
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-353 -A Site Summary- Heron's Head Park - India Basin 2-353 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Francisco		37 44.3	122 22.5
USGS Quad:	San Francisco South	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site includes the entire north margin of India Basin and the land north of the power plant discharge channel. This wetland park is undergoing restoration. It is a narrow peninsula with high ground, about 8 acres of tidal marsh, and mudflat shores. The site has been graded to create a combination of pools and high grounds with walking paths. There are several small tidal inlets on the south and west margins (about 500 ft total length) which admit tidal exchange to interior ponds. There is a channel with power plant cooling water discharge at the southwest edge. The bay to the south is exceedingly shallow. The north side is a riprap/pebble shore with low sensitivity. The site is undergoing natural revegetation, and the marshy vegetation is not very developed at this time. With time it may become increasingly sensitive as marsh vegetation and the marsh community develop fully. For this reason it is now an A-level site.

SEASONAL and SPECIAL RESOURCE CONCERNS

Marshes have A-sensitivity and priority protection at all times.

RESOURCES OF PRIMARY CONCERN

This is a wetland restoration site. It has high ground vegetation, pickleweed marsh, and saltmarsh ponds and lagoons. The site is surrounded by mudflats.

A variety of water birds, shorebirds and upland songbirds are present. Because there is very little marsh habitat on the San Francisco Peninsula, this site has high habitat value.

Potentially this site is suitable for endangered saltmarsh harvest mouse.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

None likely since this site was created by wetland filling.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
BEL	Carol Bach	Port of San Francisco	(415) 274-0568
LEB	David Hayes	CA Coastal Conservancy	(510) 286-0736
OLE	Linda Scourtis	SF Bay Conservation and Development Commission	(415) 352-3644

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location: San Francisco

NOAA CHART: 18649/18650 Entrance to SF Bay

Latitude N: 37 44.3 Longitude W: 122 22.5

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The tidal inlets could admit oil to the lagoons, ponds, and low marsh areas on this site. As emergent marshes develop along shorelines, these would also be vulnerable to oil impacts. Exclude oil from all inlets and protect shorelines or deflect away. Avoid trampling marsh vegetation. This is a marsh restoration site.

HAZARDS and RESTRICTIONS:

This basin is very shallow - follow the stakes which mark the channel.

SITE STRATEGIES

Strategy 2-353.1 **Objective: Exclude oil from entering small tidal inlets to inner ponds and lagoons.** ACP DATE 10/1/2005

Close small tidal inlets with shore sections of swamp (river) boom 4X4+ (80 ft) and back with sorbent boom. Stake in place. Several openings are along south middle margin of the site and one at the end of a rock wall opposite the power plant. This can be most easily accomplished by land deployment.

Strategy 2-353.2 **Objective: Deflect when oil is likely to enter India Basin, such as easterly winds, deflect oil away from site to south shore. Protect emergent marsh located on the south shore of Indian Basin.** ACP DATE 10/1/2005

Deploy 2,500 feet of harbor boom from the tip of the east end of the spit to the south shore of India basin, east of the emergent marsh. Deploy at an angle to the prevailing wind so that the oil will slide down the boom to the south shoreline where the oil can be collected at the shoreline with shore-based skimming equipment. The boom may be cascaded if that will make it easier to deploy. Stakes may be helpful to keep the boom from forming caternary pockets. Boom can be delivered to site by boat or vehicle. Sites on south side can enable rapid recharge of boom boats from shore support. A cascade may be necessary to admit boat traffic to boat launch at India Basin Park.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-353.1	0	200		80		stakes							2	
2-353.2	2500				4	4/22+/danforths & stakes	4	1					12	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By boat the site is at the back of India Basin: proceed south along the SF waterfront about 4 miles from the Bay Bridge and turn west into India Basin just north of Hunters Pt. - Pt. Avisadero (Light G 5). By vehicle, exit Hwy 101 south of SF center at Army St. Continue east toward Bay on Army and turn south (right) on Evans Ave. Evans Ave becomes Hunters Point Blvd. India Basin Shoreline Park is on the left and there is a marina at Griffith St. This site includes the entire north margin of India Basin and the land north of the power plant discharge channel.

LAND ACCESS: Foot & ATV on site. All types on south shore of India Basin.

WATER LOGISTICS: Very shallow < 4' in most of basin and shallower at shore.
Limitations: depth, obstruction

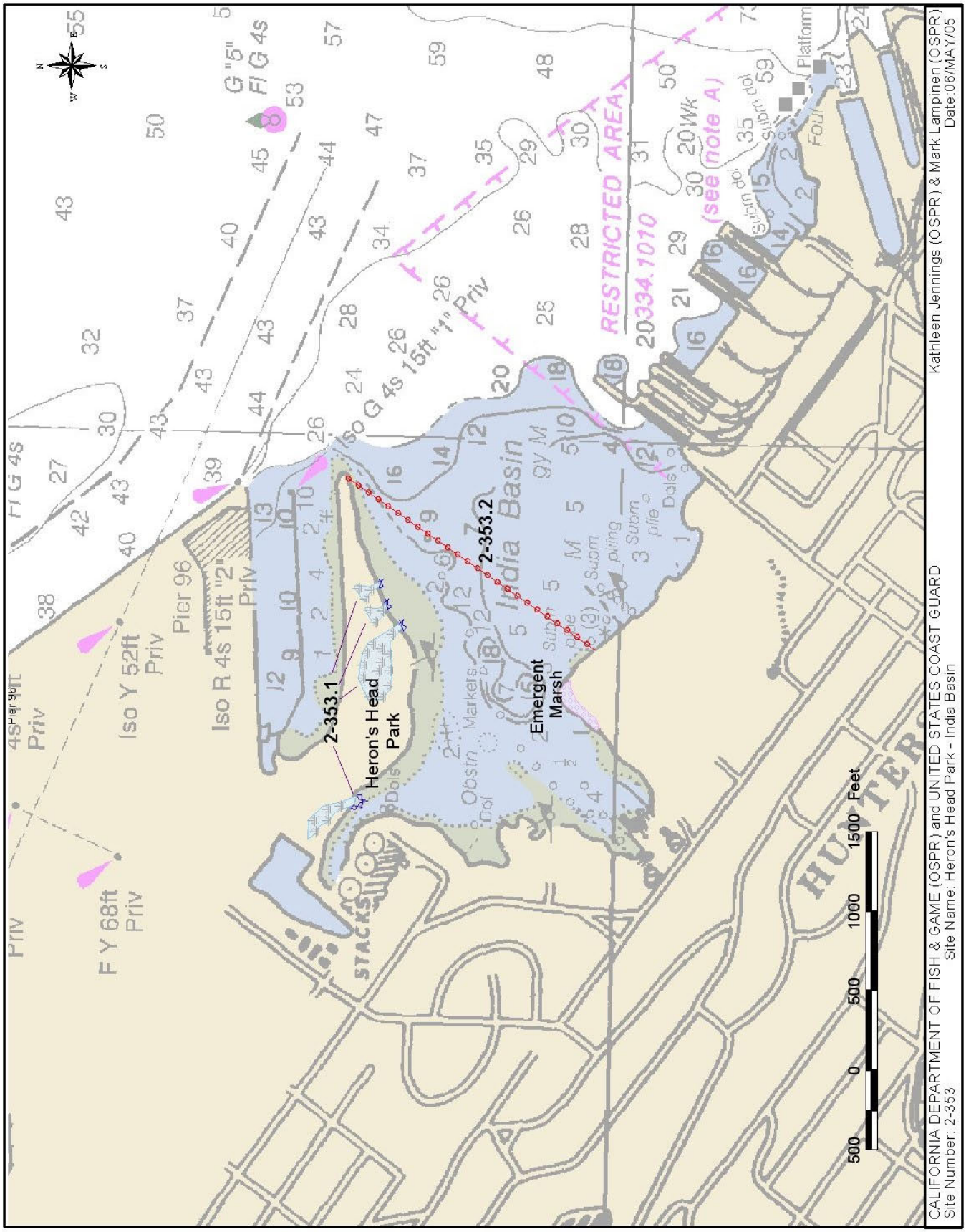
Launching, Loading, Docking and Services Available: Launch on south shore of basin.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging on south shore of India Basin.

COMMUNICATIONS PROBLEMS: No Problems

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-354 -A Site Summary- Islais Creek - Pier 94 Saltmarsh 2-354 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Francisco		37 44.3	122 22.5
USGS Quad:	San Francisco South	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This 10+ acre site is the corner of Pier 94 at the south edge of the mouth of Islais Creek Channel and extends from Pier 96 back into the channel about a third of a mile. It is a narrow 200+ yard wide parcel along the south side of the channel with high ground and about 5 acres of high saltmarsh. The site had been undergoing fill and there are mounds of rubble interspersed across the pickleweed and saltgrass marsh. The north side is a rip rapped shore with low sensitivity. There is a small tidal inlet on the east margin near the Pier 96 wharf which admits tidal exchange to an interior marsh there. This site has "A" sensitivity because it is a wetland under restoration and has heavy waterbird and shorebird use during winter.

SEASONAL and SPECIAL RESOURCE CONCERNS

This site has "A" sensitivity because it is a wetland under restoration and has heavy waterbird and shorebird use during the winter migration.

RESOURCES OF PRIMARY CONCERN

This site is traditional saltmarsh that has undergone some filling. It provides valuable wetland habitat in a heavily industrialized portion of the Bay. It has demolition debris fill, high ground vegetation, pickleweed marsh, and saltmarsh ponds. The perimeter is riprap.

A variety of water birds, shorebirds and marsh birds.

This is possible endangered saltmarsh harvest mouse habitat.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Carol Bach	Port of San Francisco	(415) 274-0568

ADDITIONAL SITE SUMMARY COMMENTS:

2-354 -A Site Strategy - Islais Creek - Pier 94 Saltmarsh

2-354 -A

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco	18649/18650 Entrance to SF Bay	37 44.3	122 22.5

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The tidal inlet could admit oil to the ponds and low marsh areas on this site. The openings are at the east end and can be protected with exclusion booming at the inlet and protective booming just offshore. Avoid trampling marsh vegetation. This is a marsh restoration site.

HAZARDS and RESTRICTIONS:

Riprap poses slip, trip and fall hazards. Vessels beware of submerged objects and shallows at margins.

SITE STRATEGIES

Strategy 2-354.1 **Objective: Exclude oil from entering inlet and protect site from oil.**

ACP DATE 10/1/2005

a. Place a length of boom at opening of rocks near Pier 96 wharf and back with sorbent. Stake in place.
b. Deploy 1,000 feet of harbor boom from Pier 94 to the south shore of the entrance to Islais Creek.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No	Special Equipment and kinds	staff deploy	Staff tend
2-354.1	1000	50		50	3	3/22+/danforths & stakes	1	1					3	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

By boat the site is at the south margin of the mouth of Islais Creek Channel (which is Pier 94): proceed south along the SF waterfront about 4 miles from the Bay Bridge to Islais Creek Channel (just south of Army St. Terminal-North Container Terminal -Pier 80). By vehicle, exit Hwy 101 south of SF center at Army St. Continue east toward Bay on Army and turn south (right) on 3rd St. and then left on Cargo Way. Access through industrial drives toward bay - Pier 94 and Pier 96. This 10+ acre site is the corner of Pier 94 at the south edge of the mouth of Islais Creek Channel and extends from Pier 96 back into the channel about a third of a mile.

LAND ACCESS: Foot & ATV on site. All types to adjacent piers.

WATER LOGISTICS: Submerged objects and shallows at margins.
Limitations: depth, obstruction

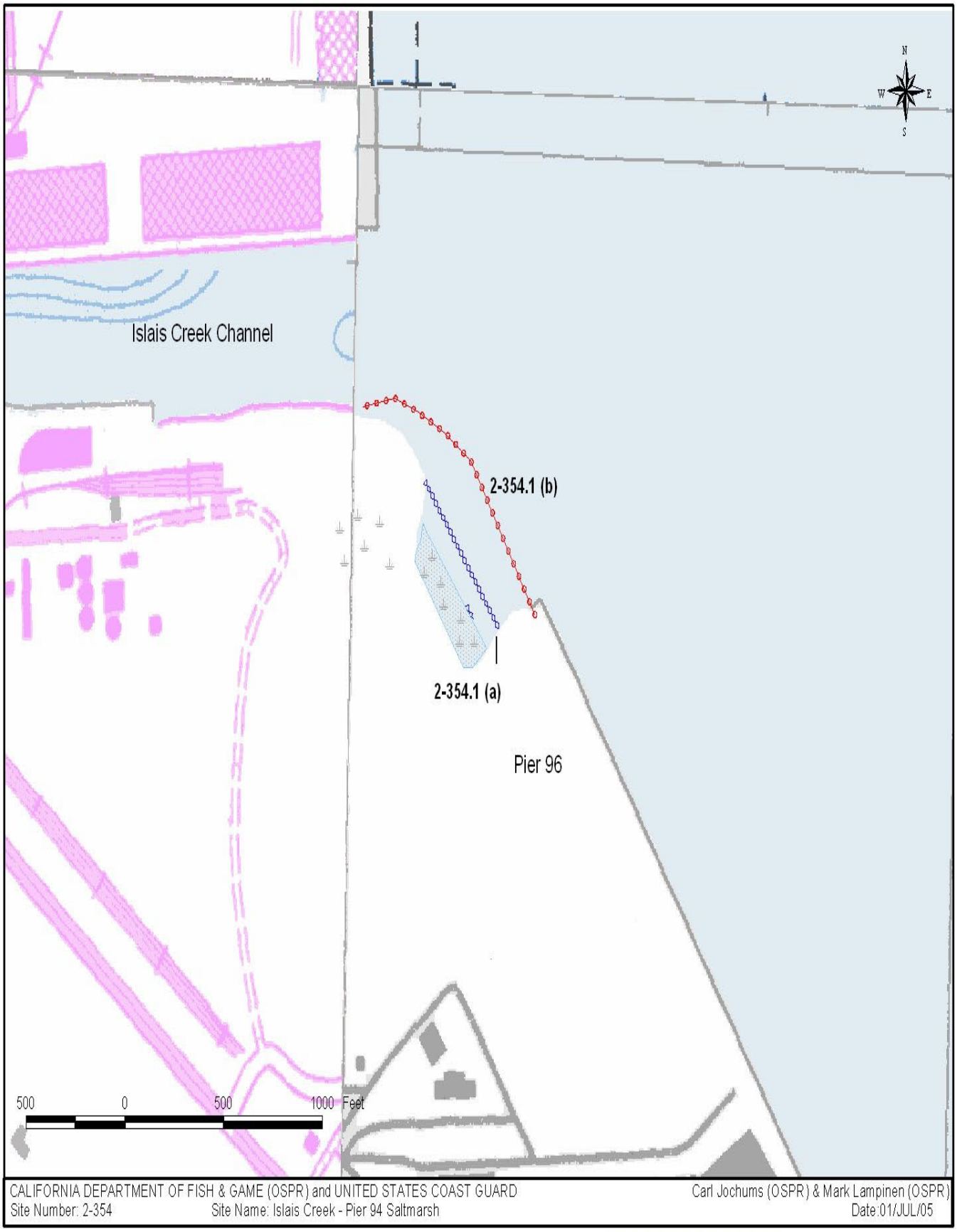
Launching, Loading, Docking and Services Available: Launch on south shore of India Basin or at South Beach Marina near the Bay Bridge, where there are facilities, fuel and mooring.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging on Pier 96 or Pier 80, either side of the channel.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


N
W
E
S
Islais Creek Channel
2-354.1 (b)
2-354.1 (a)
Pier 96
500
0
500
1000 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Site Number: 2-354
Site Name: Islais Creek - Pier 94 Saltmarsh
Date:01/JUL/05
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

Thomas Guide Location	Latitude N	Longitude W
	3 7 36	122 22

County: San Francisco

USGS Quad: San Mateo

NOAA Chart: 18649/18650 Entrance to SF Bay

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site is fringing marsh and a large tidal mudflat in a cove between the San Francisco International Airport runway and Coyote Point. The cove is a deeply recessed crescent to the west with riprap on some shores. In the eastern part of the site, along the south shore, two openings allow tidal flow to marshes behind the riprap shore. The eastern-most opening is Sanchez Creek. Shallow water and obstructive debris are present throughout this area.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" protection priority year-round.

RESOURCES OF PRIMARY CONCERN

The major habitat types present are marshes, mudflats, and riprap. The marsh is at the back of the cove at the northwest margin and behind the riprap in the south side. Tidal mudflats span the site.

The endangered California clapper rail is a resident of the marsh. The cove serves as a feeding and resting area for waterfowl, wading birds and shorebirds. The mudflat is a feeding area for shorebirds. Waterfowl and shorebird use is highest in the fall and winter.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	H. C. Monroe, Ph.D	College of San Mateo	(650) 574-6161

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Francisco	18649/18650 Entrance to SF Bay	3 7 36	122 22

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

This site is used by endangered birds to breed and many other birds throughout the year for resting and feeding. The primary concern is to keep oil from entering the marshes and to keep oil out of the cove where birds gather. In addition, response activity itself can be severely damaging: avoid harassing wildlife, trampling marsh plants, treading oil into marsh and mud, or disturbing the tidal flat bottom.

HAZARDS and RESTRICTIONS:

Aircraft beware: this is in or near S.F. International Airport restricted airspace; hazards from incoming planes. Vessels beware of shallow water and submerged obstructions.

SITE STRATEGIES

Strategy 2-361.1 Objective: Exclude oil from entering slough openings and cove.

ACP DATE 7/1/1996

a) Deploy 7,600 ft of curtain boom along the outer edge of the intertidal mudflat to exclude oil from the marsh. Line boom from SE corner of runway along mudflat to rip rap on southern shoreline.
b) Exclude oil from entrance to "pond" on south shore with 200 ft. of curtain boom doubled back across entrance (100 ft. across two times)
c) Exclude oil from Sanchez Creek, a rip rapped slough channel leading to the large marsh along freeway. Deploy 400 ft. of curtain boom in apex configuration out from channel entrance with two 200 ft legs each.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-361.1	8200				35	35/20-40/danforth w chain	4	4			4 shallow draft boomboats	28	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access available near the shoreline: From Hwy 101, exit on Millbrae and drive along shoreline on Bayshore Hwy and Airport Blvd., or exit on Peninsula Ave and proceed bayward on Coyote Point Drive to Coyote Point County Recreation Area and Coyote Point Marina. This site is fringing marsh and a large tidal mudflat in a cove between the San Francisco International Airport runway and Coyote Point.

LAND ACCESS: Large truck.

WATER LOGISTICS: Extremely shallow waters and obstructions are limiting.
Limitations: depth, obstruction

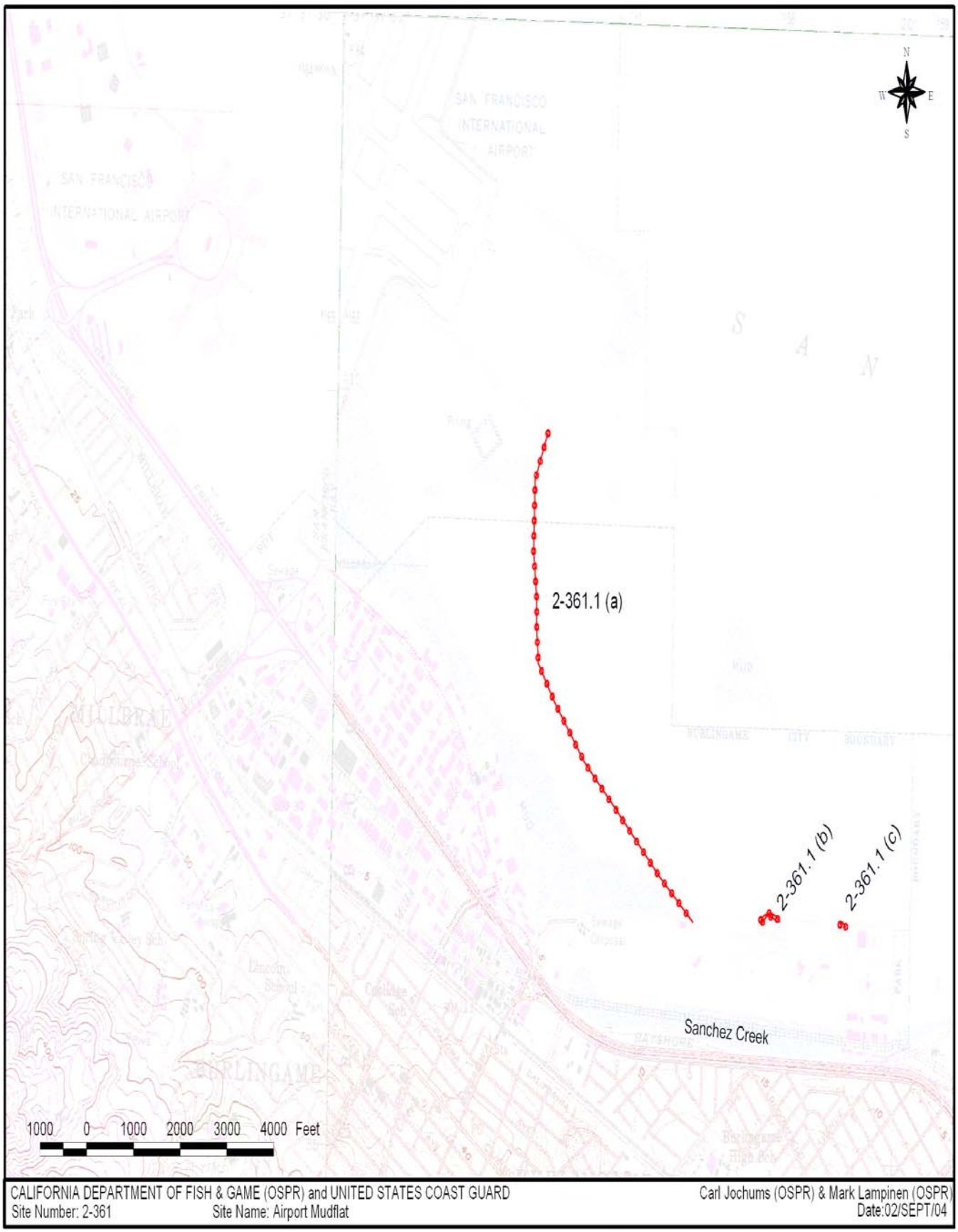
Launching, Loading, Docking and Services Available: Coyote Pt. Marina and Oyster Pt. Marina

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Coyote Point Marina, Oyster Point Marina, possibly SF airport, and parking lots along south shore.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-362 -A Site Summary- Belmont Slough

2-362 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 33	122 15
USGS Quad:	Redwood Point, California	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site includes the length of Belmont Slough and branching sloughs (Bay Slough) and the saltmarsh and mudflat frontage at the Bay front. Belmont Slough is a narrow channel on the southwest shore of South San Francisco Bay, one mile south of the San Mateo-Hayward Bridge. Marsh and mudflat are present at the mouth and along its banks. There is a large bay front saltmarsh between the bay and Bay Slough. The mudflat bayward of the marsh is very wide and shallow. It is part of San Francisco Bay National Wildlife Refuge and California Department of Fish and Game Redwood Shores Ecological Reserve.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year.

RESOURCES OF PRIMARY CONCERN

Main habitats of concern are bay front and slough margin saltmarsh and extensive tidal mudflats.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: endangered salt marsh harvest mouse and California species of special concern - salt marsh wandering shrew. Harbor seals frequent this site.

The sloughs and mudflats are important habitat for fish, shellfish and infauna and foraging habitat for birds.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18649/18650 Entrance to SF Bay	3 7 33	122 15

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Belmont Slough. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of high power wires. Vessels be aware that Belmont Slough is very narrow and unmarked and mudflats and margins are very shallow.

SITE STRATEGIES

Strategy 2-362.1 Objective: Exclude oil fom entering Belmont Slough.

ACP DATE 7/1/1996

a) Deploy several 600 to 1,000+ ft. sections of 30 to 48 inch curtain boom cascading south along the mudflat/channel shelf contour to deflect oil back into main current and away from shore.
b) Deploy 200 ft. of tidal barrier boom from prominent rip rapped point NW of Belmont Slough entrance marsh across mudflat to channel margin. Exclude and deflect oil away from the marsh into a skimmer located in the main channel near the confluence of Belmont and Bay Sloughs.

Strategy 2-362.2 Objective: Protective booming of bayfront tidal marsh

ACP DATE 7/1/1996

Deploy 6,000 ft. of exclusion boom on the bay side of salt marsh island in front of Bay Slough. At the north end connect with boom leg of skimmer system. Tidal barrier boom is preferred, however, curtain boom backed with several layers of sorbent boom may also be adequate.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-362.1	4000		200 TBB		18	18/40/ Danforht	3	0	1	SPS		14	
2-362.2	6000				35	35/22+/Danforth	2	3				16	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Primary access is via water since land access is limited by fronting marsh. By land, exit Hwy 101 at East Hillsdale Blvd and proceed on Hillsdale or Foster City Blvd. bayward to Beach Park Blvd. This site includes the length of Belmont Slough and branching sloughs (Bay Slough) and the saltmarsh and mudflat frontage at the Bay front.

LAND ACCESS: All types along Beach Park Blvd.

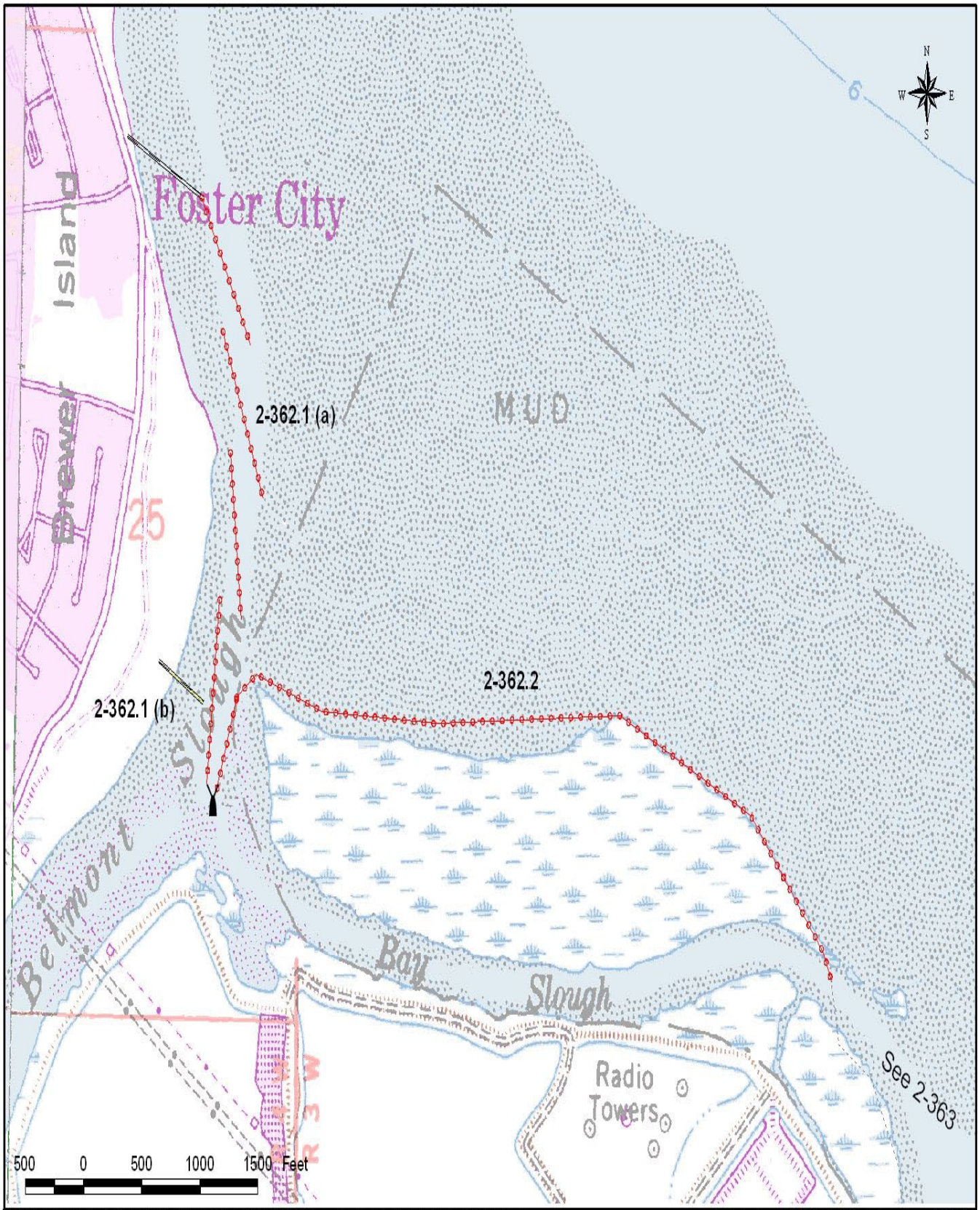
WATER LOGISTICS:
Limitations: depth, obstruction — Extreme shallows and mudflats at low tide.
Launching, Loading, Docking and Services Available: — Redwood City Marina.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Redwood City Marina, harbor and possibly along Beach Park Blvd. on Brewer Island in Foster City.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


Foster City
Island
Brewer
25
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S
2-362.1 (a)
MUD
2-362.1 (b)
2-362.2
Belmont Slough
Bay
Slough
Radio Towers
See 2-363
500 0 500 1000 1500 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-362
Site Name: Belmont Slough
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:01/JUL/05
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-363 -A Site Summary- Steinberger Slough 2-363 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 32	122 14
USGS Quad:	Redwood Point, California	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site extends from the mouth of Bay Slough to Bair Island and includes the marshes landward along Steinberger Slough and Smith Slough to Hwy 101. Steinberger Slough is on the southwest shore of South San Francisco Bay, two miles south of the San Mateo-Hayward Bridge. It lies to the northwest of Bair Island. This slough has no defined channel and is shallow. It has a well developed marsh and mudflat at the mouth and along its banks. It is part of San Francisco National Wildlife Refuge and California Department of Fish and Game Bair Island and Redwood Shores Ecological Reserve.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year.

RESOURCES OF PRIMARY CONCERN

This site has extensive marshes and mudflats at the mouth and along its length.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: salt marsh harvest mouse and salt marsh wandering shrew.

The sloughs and mudflats are important habitat for fish, shellfish and infauna.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
	H. C. Monroe, Ph.D	College of San Mateo	(650) 574-6161

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18649/18650 Entrance to SF Bay	3 7 32	122 14

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Steinberger Slough. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead power lines nearby; vessels be aware of shallow water; channel not clearly marked.

SITE STRATEGIES

Strategy 2-363.1 Objective: Exclude oil from entering/leaving Steinberger Slough

ACP DATE 7/1/1995

1) Deploy 3,500 ft of 18" deflection curtain boom along the north side channel margin to diver oil to a skimmer positioned in the main slough channel. Connect this boom to exclusion boom deployed as part of the Belmont Slough strategy (A-2-362) to exclude oil from Bay Slough and the marsh NW of Steinberger Slough mouth.
2) Place a vessel operated skimmer in main slough channel. Use a portion of original 3,500 ft of boom deployed for legs of skimmer. Connect southern let to levee or extend out to remnant concrete pier on small island on the south side of main channel.
3) Place tidal barrier boom across mudflats on both sides of main channel. Connect to curtain boom.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-363.1	3500		500 TBB		16	16/22+/danforth & chain	2	1	1	SPS	Bboat: very shallow draft	13	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Nearest vehicle access is San Carlos Airport: exit Hwy 101 at Holly/Redwood Shores Pkwy. This site extends from the mouth of Bay Slough to Bair Island and includes the marshes landward along Steinberger Slough and Smith Slough to Hwy 101.

LAND ACCESS: No road access to Bair Island.

WATER LOGISTICS: No defined channel, impassable at low tide, very shallow.
Limitations: depth, obstruction

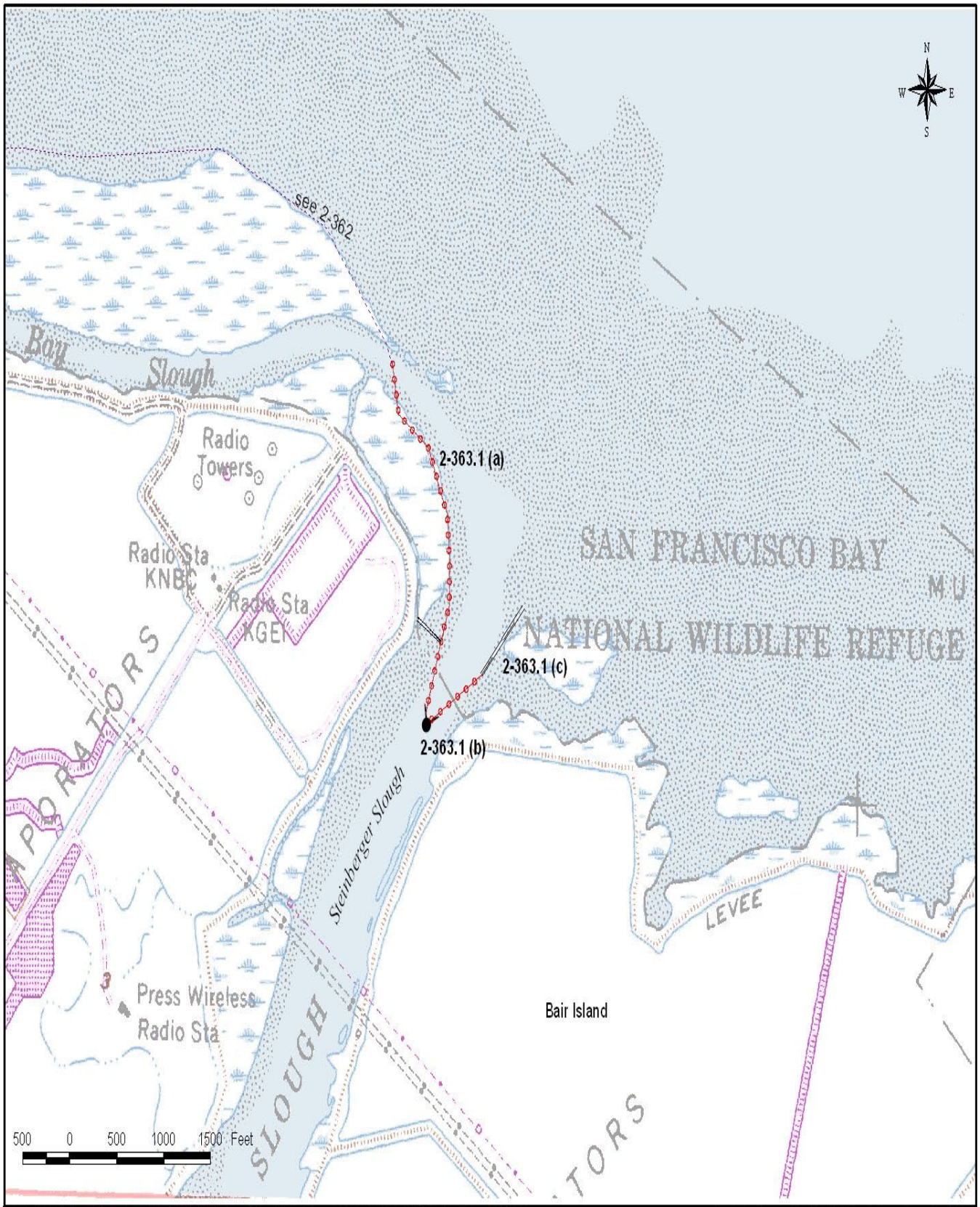
Launching, Loading, Docking and Services Available: Nearest launch is at Redwood City.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Port of Redwood City, possibly through sewage facility on north side of channel.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-363 Site Name: Steinberger Slough

Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:01/JUL/05

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 32	122 14
USGS Quad:	Redwood Point, California	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

The site includes all of Bair Island between the mouths of Redwood Creek and Steinberger Slough. Bair Island has an extensive marsh complex inside its levees. Water flows through breaches in several places around the island. A large fringe marsh exists outside the levee along Redwood Creek. The "island" is located on the southwest shore of South San Francisco Bay, three miles south of the San Mateo-Hayward Bridge. It is bounded on the southeast by Redwood Creek, on the northwest by Steinberger Slough and on the south by Corkscrew Slough. It is part of San Francisco Bay National Wildlife Refuge and California Department of Fish and Game Bair Island Ecological Reserve.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year. The greatest risk to harbor seals is during spring breeding season 15 March - 10 June: pups can ingest oil on female's fur during nursing; disturbance during brief lactation period (3-5 weeks) can reduce pup's survival after weaning. Moderate risk year-round from inhalation of volatile oil fractions and ingestion of contaminated prey.

RESOURCES OF PRIMARY CONCERN

This site has an extensive marsh complex inside its levees. Water flows through breaches in several places around the island. A large fringe marsh exists outside the levee along Redwood Creek and outer levees and islands. The bay frontage has an extensive tidal mudflat.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: endangered salt marsh harvest mouse and California species of special concern salt marsh wandering shrew. Harbor seals haul out along north side of creek. This is the largest harbor seal rookery in San Francisco Bay. Seal numbers during spring/breeding season have reached 350 adults + 100 pups, nonbreeding 5 - 70 seals.

The sloughs and mudflats are important habitat for fish, shellfish and infauna.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18649/18650 Entrance to SF Bay	3 7 32	122 14

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering openings to Bair Island and adjacent sensitive sites. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead power lines nearby. Vessels be aware of shallow water.

SITE STRATEGIES

Strategy 2-364.1 **Objective: Exclude oil from entering Bair Island: close openings to interior.** ACP DATE 7/1/1996

a) Several breaches in the levee around Bair Island exist. These channel entrances lead to an extensive marsh complex inside Bair Island. It is critical that these channnel entrances be blocked. Approximately 200 ft of curtain boom, swamp boom, sorbent boom, sand bags, or a combination thereof may be deployed.
b) A large levee breach exists approximately halfway between Steinberger Slough and Redwood Creek. This channel entrance should be blocked using any methods or equipment possible.

Strategy 2-364.2 **Objective: Protective booming of exposed marsh frontage.** ACP DATE 7/1/1996

Deploy 4,000 ft of exclusionary tidal barrier boom around unleveed marsh on eastern Bair Island, northwest of Redwood Creek, beginning near levee breach midway along the bay side shore. Extend boom east and south into Redwood Creek channel. Connect with curtain boom from Redwood Creek strategy (2-365-A).

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-364.1	0	200		200	3	3/22+/danforth c chain	1	1			very shallow Bboat	5	
2-364.2	0		4000 TBB		17	17/22+/danforth c chain & line	2	1			Very shallow water Bboat		

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Bair Island has no vehicular access. By water it is at the mouth and to the north of Redwood Creek, just bayward of the Port of Redwood City. The site includes all of Bair Island between the mouths of Redwood Creek and Steinberger Slough.

LAND ACCESS: Foot: no road access to Bair Island.

WATER LOGISTICS: Very shallow on bay frontage and at margins.
Limitations: depth, obstruction

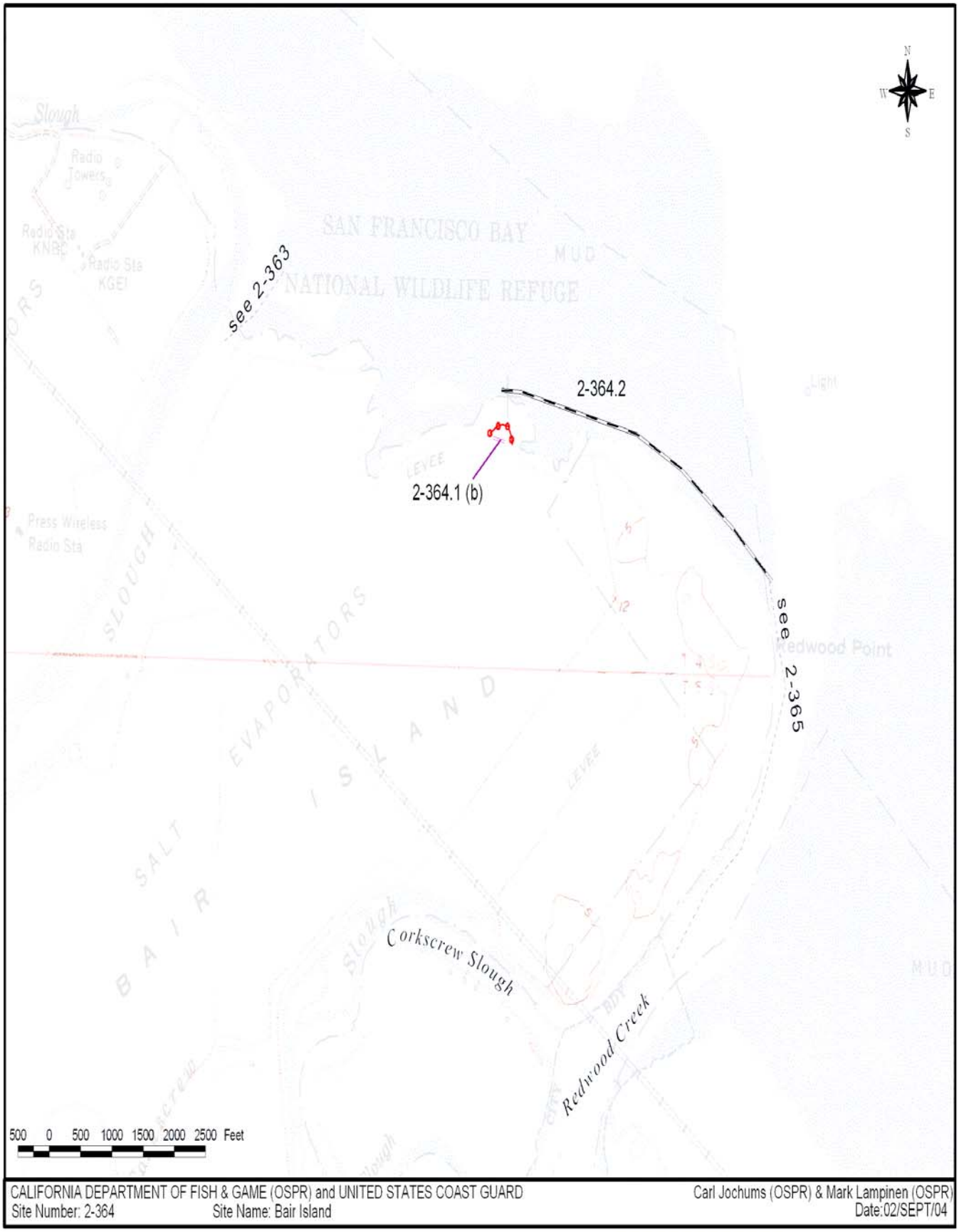
Launching, Loading, Docking and Services Available: Port of Redwood City.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Port of Redwood City.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


N
W
E
S
see 2-363
SAN FRANCISCO BAY
NATIONAL WILDLIFE REFUGE
2-364.2
2-364.1 (b)
see 2-365
Redwood Point
SALT EVAPORATORS
BAIR ISLAND
Corkscrew Slough
Redwood Creek
500 0 500 1000 1500 2000 2500 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-364
Site Name: Bair Island
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:02/SEPT/04
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

Thomas Guide Location	Latitude N	Longitude W
	3 7 32	122 14

County: San Mateo

USGS Quad: Redwood Point, California

NOAA Chart: 18649/18650 Entrance to SF Bay

Last Page Update : 10/1/2002

SITE DESCRIPTION:

The site includes Redwood Creek from its mouth to Hwy 101 and Westpoint Slough, and several small side channels (but not Corkscrew Slough). Redwood Creek is the dredged channel for the Port of Redwood City. Its banks are lined with cordgrass and pickleweed marshes. Large tidal flows through this creek feed other connecting sloughs and marshes. Portions of the mouth are included in San Francisco National Bay Wildlife Refuge.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year.

RESOURCES OF PRIMARY CONCERN

The banks of Redwood Creek, West Point Slough and other channels are lined with cordgrass and pickleweed marshes. Large tidal flows through this creek feed other connecting sloughs and marshes. These marshes and associated mudflats support a wide variety of species including many Special Status Species.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: endangered salt marsh harvest mouse and California species of special concern - salt marsh wandering shrew. Harbor seals haul out along north side of creek.

The sloughs and mudflats are important habitat for fish, shellfish and infauna.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18649/18650 Entrance to SF Bay	3 7 32	122 14

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Redwood Creek. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead power lines nearby. Vessels be aware of shallow water.

SITE STRATEGIES

Strategy 2-365.1 Objective: Deflect past, Deflect to collection, Protective boom shoreline.

ACP DATE 7/1/1996

a) Deploy several 600+ ft sections (3000 ft) of 30 to 48 inch harbor boom with heavy anchors from Redwood Creek channel markers #3,4,5, and 6 to deflect oil back into main current and away from shore.
b) Deploy 1,500 ft of 18 inch deflection curtain boom off both channel markers #7 and 8.
c) Deploy 5,000 ft of 18 inch curtain boom along the north channel margin and connect with tidal barrier boom deployed in the Bair Island strategy (2-364.2). Exclude and deflect oil away from the marsh into a skimmer system located in the main channel near channel markers #9 and 10.
d) Skimmer system should be set up so that it can rearranged for flood and ebb tides.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-365.1	3000	8000	4000 TBB	2000	50	35/22+ & 15/40+/danforth w chain	6	3	1	sfs	very shallow Bboats	28	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access to margin of site is from Hwy 101, exit on Seaport Blvd and continue to Port of Redwood City or Municipal Marina. Vessel access is from the Port or marina bayward to the mouth of Redwood Creek. The site includes Redwood Creek from its mouth to Hwy 101 and Westpoint Slough, and several small side channels (but not Corkscrew Slough).

LAND ACCESS: Foot only except at harbors.

WATER LOGISTICS: Extreme shallows near shore.
Limitations: depth, obstruction

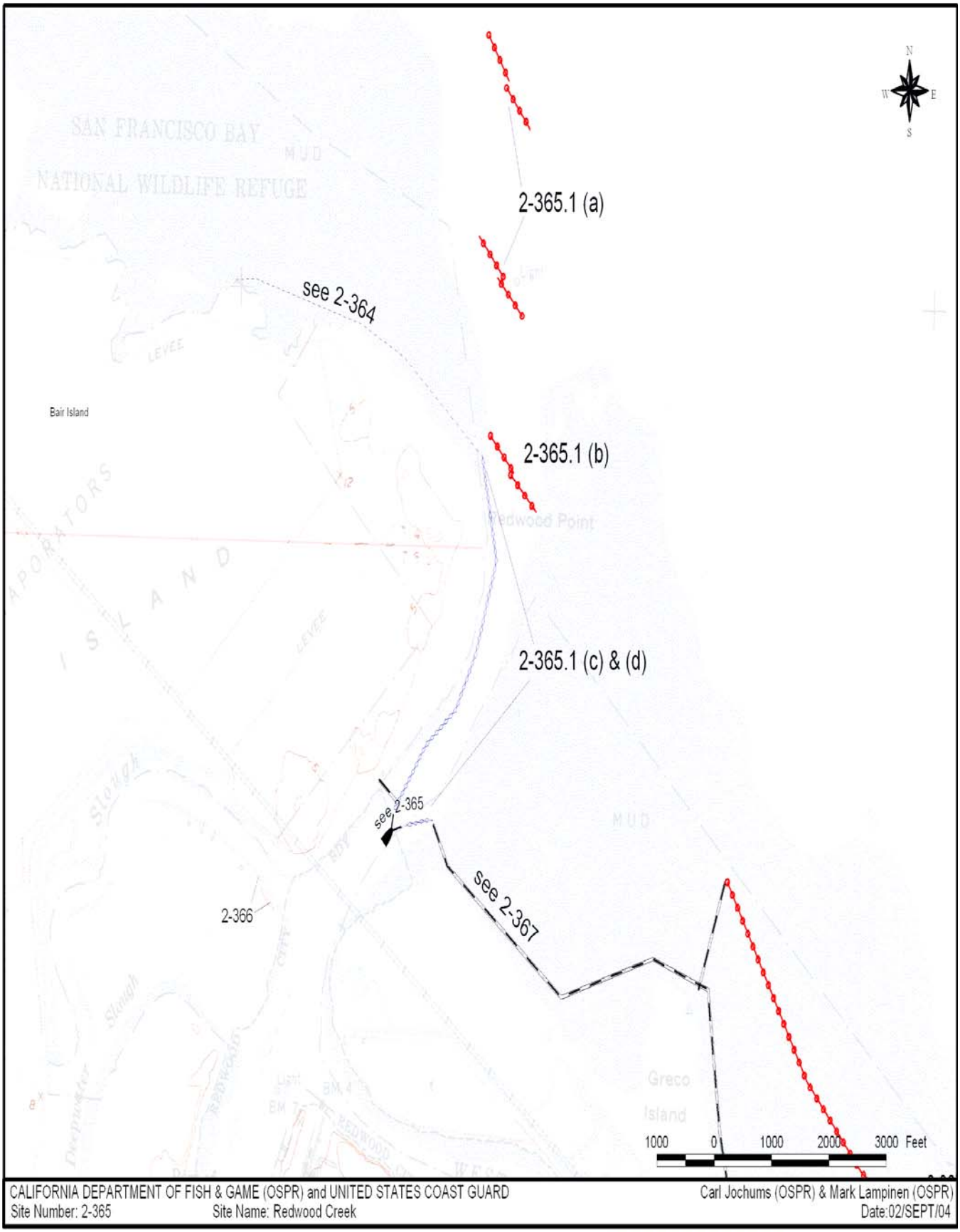
Launching, Loading, Docking and Services Available: On site: Redwood City Marina and Port of Redwood City.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Redwood City marina, harbor.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 31	122 14
USGS Quad:	Redwood Point, California	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

Corkscrew Slough lies to the south of Bair Island and extends from Redwood Creek on the east to Steinberger Slough on the west. It is a water channel on the southwest shore of South San Francisco Bay, three miles south of the San Mateo-Hayward Bridge, on the back side of Bair Island. Primary water flow comes from Redwood Creek. Its banks are lined with cordgrass and pickleweed marsh. The easterly half of the slough is included in the San Francisco Bay National Wildlife Refuge.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year. The greatest risk to harbor seals is during spring breeding season 15 March - 10 June: pups can ingest oil on female's fur during nursing; disturbance during brief lactation period (3-5 weeks) can reduce pup's survival after weaning. Moderate risk year-round from inhalation of volatile oil fractions and ingestion of contaminated prey.

RESOURCES OF PRIMARY CONCERN

Margins of the slough are cordgrass and pickleweed with fronting tidal mudflats.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, american peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: endangered salt marsh harvest mouse andCalifornia species of special concern - salt marsh wandering shrew. This is an important harbor seal pupping and haulout area.

The sloughs and mudflats are important habitat for fish, shellfish and infauna.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18649/18650 Entrance to SF Bay	3 7 31	122 14

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, including seal pupping, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Corkscrew Slough. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead power lines nearby. Vessels be aware of shallow water and strong currents.

SITE STRATEGIES

Strategy 2-366.1 Objective: Exclude oil from entering Slough.

ACP DATE 7/1/1996

a) Protect from spills coming from the Bay by implementing Redwood Creek (2-365) and Steinberger Slough (2-363) strategies. The main flow of water into Corkscrew Slough is through Redwood Creek.
b) Protection from spills inside the Port of Redwood City: Deploy 2,000 ft of 18" curtain boom across slough mouth with a J-hook on the deeper, south side of the channel.
c) Deploy additional lines of sorbent boom and/or curtain boom inside the slough.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-366.1	0	2000		2000	15	15 / 22+/ Danforth w chain & stakes	2	0			very shallow Bboats	5	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

This site is accessible from water only, just bayward and across creek from Port of Redwood City. Nearest land access is Port and marina: Exit Hwy 101 on Seaport Blvd and proceed bayward to marina and Port. Corkscrew Slough lies to the south of Bair Island and extends from Redwood Creek on the east to Steinberger Slough on the west.

LAND ACCESS: Foot only, vehicles at harbor nearby.

WATER LOGISTICS: Very shallow near shore.
Limitations: depth, obstruction

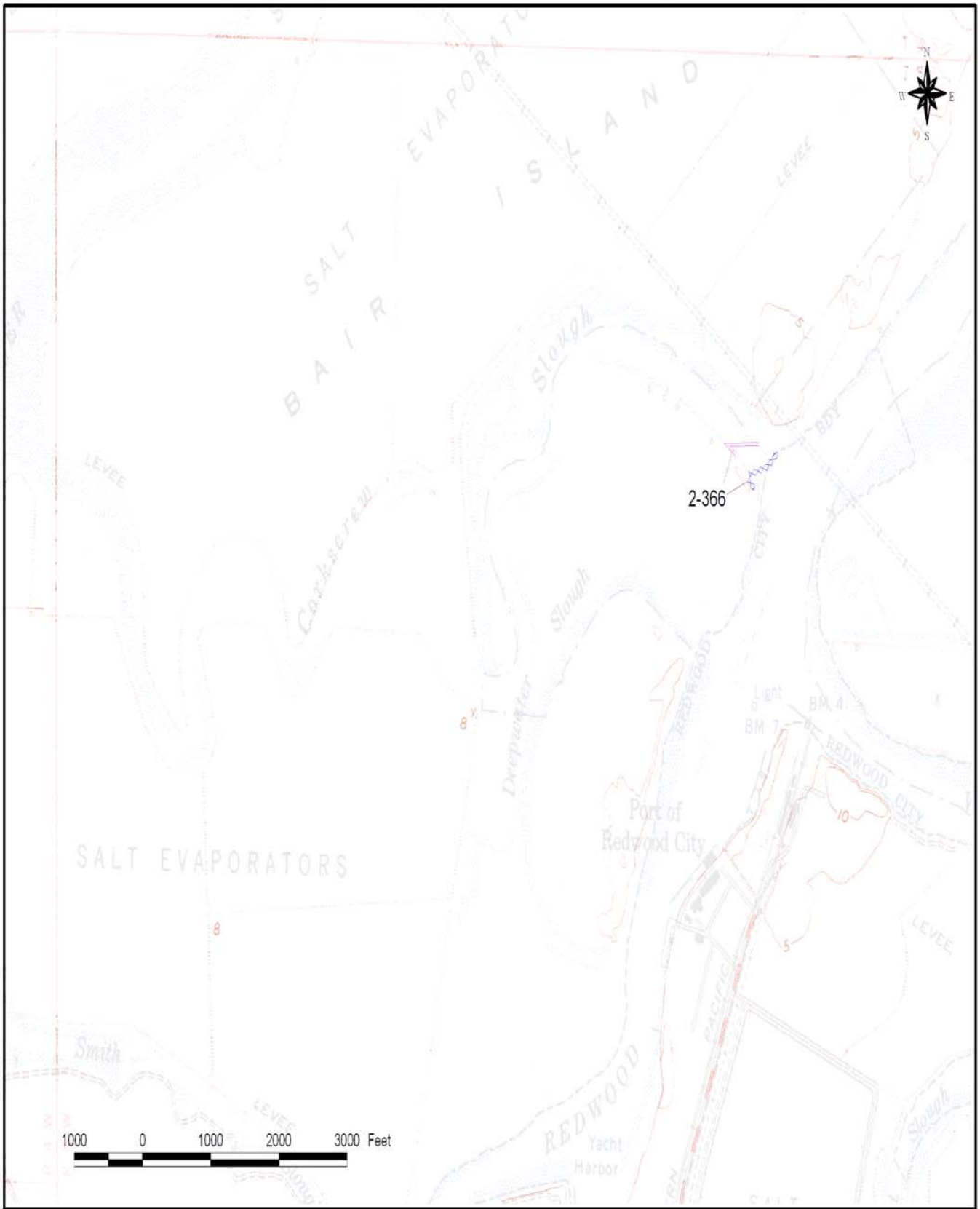
Launching, Loading, Docking and Services Available: Port of Redwood City and marina.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Port of Redwood City. No road access to Bair Island.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-366 Site Name: Corkscrew Slough
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date:02/SEPT/04

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-367 -A Site Summary- Greco Island/Ravenswood Slough 2-367 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	San Mateo		3 7 31	122 12
USGS Quad:	Redwood Point, California	NOAA Chart:	18649/18650 Entrance to SF Bay	

Last Page Update : 10/1/2002

SITE DESCRIPTION:

This site extends from the mouth of Redwood Creek to the Dumbarton Bridge and includes Greco Island, Ravenswood Slough and the marsh between the slough and Ravenswood Point. Greco Island is a saltmarsh island on the southwest shore of South San Francisco Bay, one mile northwest of the Dumbarton Bridge. It is bounded on the northwest by Redwood Creek and on the southwest by Westpoint Slough. Ravenswood Slough opens to the Bay south of Greco Island near Westpoint Slough. Fringing cordgrass/pickleweed marshes line the mouth and banks. The Greco Island site was combined with formerly designated Ravenswood Slough site due to their close proximity to each other, similar sensitivities, and combined response protection strategy.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year. The greatest risk to harbor seals is during spring breeding season 15 March - 10 June: pups can ingest oil on female's fur during nursing; disturbance during brief lactation period (3-5 weeks) can reduce pup's survival after weaning. Moderate risk year-round from inhalation of volatile oil fractions and ingestion of contaminated prey.

RESOURCES OF PRIMARY CONCERN

Habitats at risk include the pickleweed and cordgrass marshes of the islands and slough margins, high marsh suitable for seal rookery and haulout, and extensive mudflats, particularly on bayward margins.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, peregrine falcon, California least tern; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: salt marsh harvest mouse and salt marsh wandering shrew. Greco Island is a harbor seal haulout and rookery site. Seal number - Spring/breeding 25-60 adults + pups; nonbreeding 5-25 adults.

The sloughs and mudflats are important habitat for fish, shellfish and infauna.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center (Leigh Jordan, Sonoma State College (707) 664-0880), for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	H. C. Monroe, Ph.D	College of San Mateo	(650) 574-6161

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
San Mateo	18649/18650 Entrance to SF Bay	3 7 31	122 12

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, including seal pups and adults, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Ravenswood Slough, Westpoint Slough and small tidal sloughs. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead power lines nearby. Vessels be aware of shallow water.

SITE STRATEGIES

Strategy 2-367.1 Objective: exclude oil from entering various sloughs, protective booming of bay frontage.

ACP DATE 7/1/1996

1) Protection of this site requires the use of deflection booming off the Redwood Creek channel markers as described in the Redwood Creek strategy (A-2-365).
2) Additionally, deploy 8,000 ft of 18 inch deflection curtain boom along the outer edge of the mudflat from the prominent point by side of Greco Island south to the point on the levee between Ravenswood Point and Ravenswood Slough.
3) Deploy 10,000 ft of exclusionary tidal barrier boom across the upper portion of the mudflat fronting the marsh of Greco Island and entrances to Ravenswood and Westpoint Sloughs. Connect boom at the north end with Redwood Creek strategy. ALTERNATIVES: It is critical that channel entrances leading into Greco Island be blocked. If tidal barrier boom should fail or time to impact does not permit its deployment. Block channel mouths with curtain boom, swamp boom, sorbent boom, or combination thereof.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-367.1	8000	2000	10000 TBB	2000	60	60/22+/danforths & stakes	6	10	0		very shallow Bboats	40	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

There is no vehicle access to this site. Nearest vehicle access is Port of Redwood City: Exit Hwy 101 at Seaport Blvd. and continue bayward to Port or marina. Water access is from Port or Marina immediately to the south from Redwood Creek. This site extends from the mouth of Redwood Creek to the Dumbarton Bridge and includes Greco Island, Ravenswood Slough and the marsh between the slough and Ravenswood Point.

LAND ACCESS: No road access.

WATER LOGISTICS: Very shallow mudflats.
Limitations: depth, obstruction

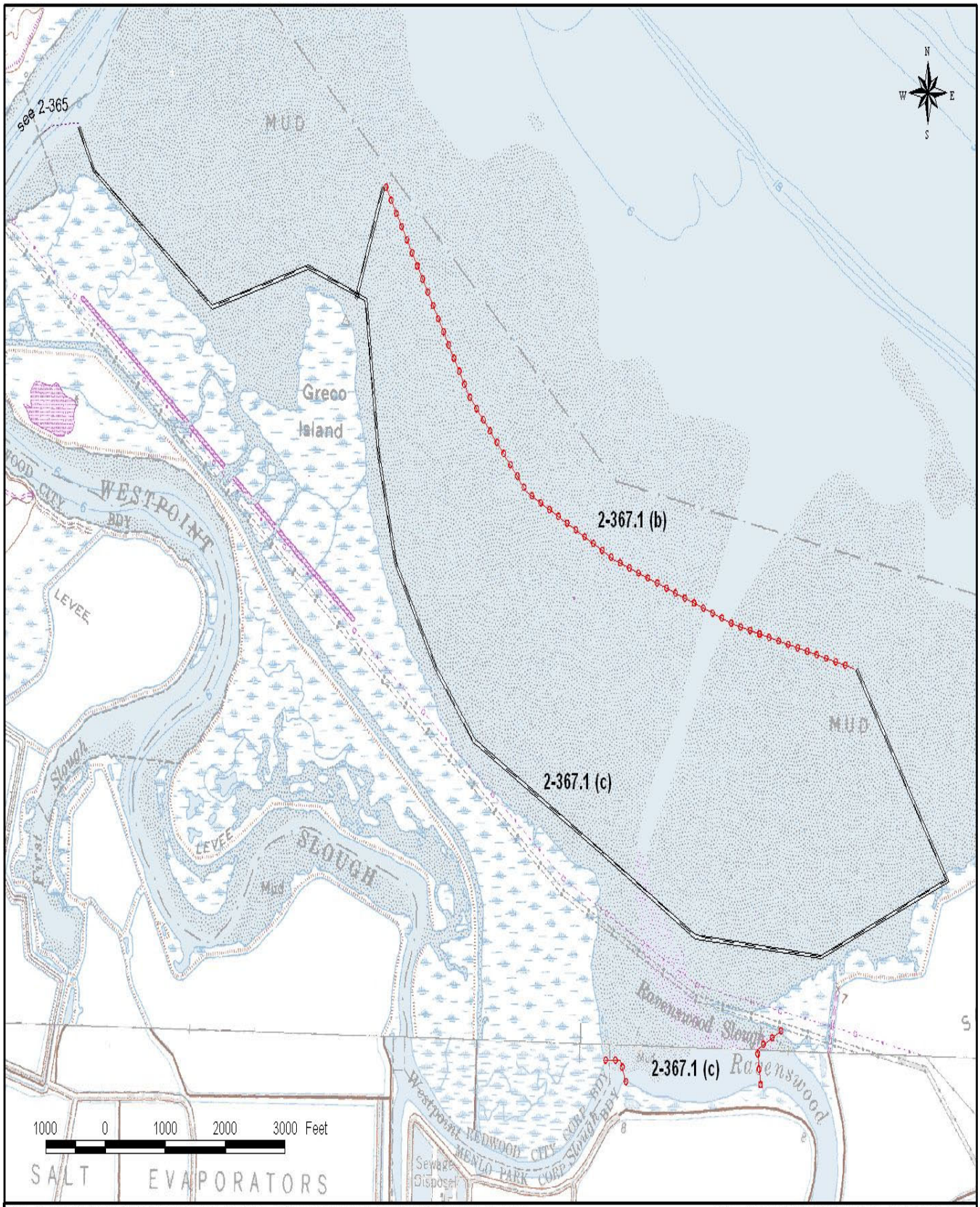
Launching, Loading, Docking and Services Available: Redwood City marina and Port.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Redwood City marina, harbor.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-367 Site Name: Greco Island/Ravenswood Slough

Carl Jochums (OSPR) & Mark Lampinen (OSPR
Date:01/JUL/05

Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

		Thomas Guide Location	Latitude N	Longitude W
County:	Santa Clara		3 7 28	122 06
USGS Quad:	Mountain View	NOAA Chart:	18654 San Francisco Bay Southern Part	

Last Page Update : 7/1/1996

SITE DESCRIPTION:

Palo Alto Marsh lies on the southwest shore of South San Francisco Bay, immediately south of the Dumbarton Bridge to Mayfield Slough. Cordgrass saltmarsh and mudflats are bisected by several channels, including San Francisquito Creek. The site is part of the City of Palo Alto's Baylands Nature Preserve. The site is fronted by extensive very shallow mudflats.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority all year. Endangered species are present all year.

RESOURCES OF PRIMARY CONCERN

This is a saltmarsh habitat primarily composed of cordgrass and pickleweed and supports a rich variety of species including numerous T & E species.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: Endangered - salt marsh harvest mouse; California species of special concern - saltmarsh wandering shrew.

San Francisquito Creek supports the largest and one of the few remaining steelhead runs in San Francisco Bay.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Deborah Bartens	Baylands Nature Preserve	(415) 329-2506
	Peter Baye, Ph.D. Coastal Plant Ecologist		(415) 310-5109
	Bob Douglas	Cargill Salt	(510) 790-8156
	H. C. Monroe, Ph.D	College of San Mateo	(650) 574-6161
	Palo Alto Boat Works at C	Palo Alto Boat Works, Cooley Landing	

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	3 7 28	122 06

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is to exclude oil from entering the interior marsh via channels. Second concern is oiling of this low energy marsh front. Also of concern is damage to marsh from response activities: trampling marsh vegetation, disturbing sensitive species, and trampling of oil into sediments.

HAZARDS and RESTRICTIONS:

Aircraft beware of airport traffic and overhead power lines nearby; vessels beware of shallow water; pilings and debris on mudflat.

SITE STRATEGIES

Strategy 2-370.1 **Objective: Exclude oil from entering the entrances to Palo Alto Marsh and San Francisquito Creek, if time to impact does not permit its deployment or if tidal barrier boom (strategy 2-370.2) should fail.**

ACP DATE 7/1/1996

ALTERNATIVES: It is critical that channel entrances leading into Palo Alto Marsh (Baylands Nature Preserve) and San Francisquito Creek be blocked, and also, the small tidal inlets to the marsh north of Cooley Landing. Deploy lengths of appropriate curtain boom and block channel mouths with curtain boom, swamp boom, sorbent boom, or combination thereof.

Strategy 2-370.2 **Objective: Protective booming of marsh front to keep oil from impacting marsh and mudflats.**

ACP DATE 7/1/1996

Deploy 9,000 - 10,000 ft of exclusionary tidal barrier boom across the mudflat from Cooley Landing around Sand Point to Mayfield Slough.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-370.1	500	500		500			1	3				9	
2-370.2	10000	1000		1000	60	50-60 / 22#+/danforths	6	3			shallow draft bombast	38	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Vehicle access is available at two points: Cooley Landing - from Hwy 84 or Hwy 101, exit on University Ave and then bayward on Bay Rd; Palo Alto Baylands Nature Preserve - from Hwy 101 exit on Embarcadero Rd and proceed bayward to terminus. Palo Alto Marsh lies on the southwest shore of South San Francisco Bay, immediately south of the Dumbarton Bridge to Mayfield Slough.

LAND ACCESS: All weather, all vehicle road to site

WATER LOGISTICS: Very shallow
Limitations: depth, obstruction

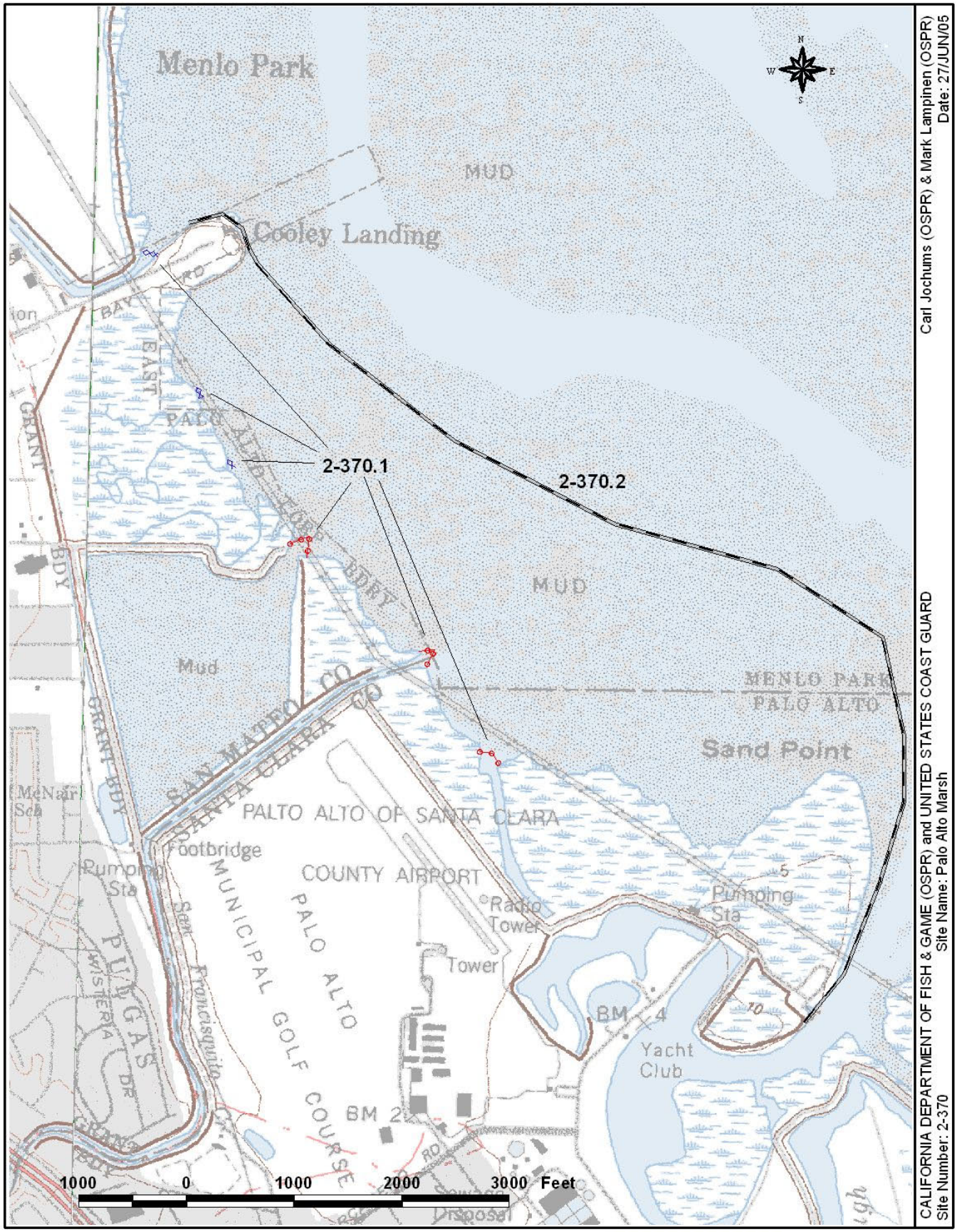
Launching, Loading, Docking and Services Available: Launch at Mayfield Slough and at Cooley Landing. Larger craft at Redwood City Marina or Harbor.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Palo Alto Boat Works and Redwood City Marina or Harbor. Also, at public access at mouth of Mayfield Slough.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-372 -A Site Summary- Charleston and Mayfield Sloughs 2-372 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Santa Clara		37 27.0	122 05.0
USGS Quad:	Mountain View	NOAA Chart:	18654 San Francisco Bay Southern Part	

Last Page Update : 7/1/1996

SITE DESCRIPTION:

This site includes Mayfield and Charleston Sloughs, including the bay frontage adjacent and open to Charleston Slough, and all inland tributary marshes. These sloughs are on the southwest shore of South San Francisco Bay, four miles south of the Dumbarton Bridge. The old Palo Alto Yacht Harbor is located on Mayfield Slough. Both sloughs have fringing cordgrass and pickleweed marshes at their mouths and along their banks. These sloughs network over 200 acres of saltmarsh.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority year-round. Saltmarsh and special status wildlife are present and vulnerable throughout the year.

RESOURCES OF PRIMARY CONCERN

This extensive marsh is cordgrass and pickleweed saltmarsh supporting endangered species throughout year.

Sensitive bird species found here include: endangered California clapper rail, California brown pelican, American peregrine falcon, California least tern, western snowy plover, An California species of special concern - saltmarsh common yellowthroat. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: Endangered - salt marsh harvest mouse; California species of special concern - saltmarsh wandering shrew; and harbor seals haul out here.

The mudflats are important habitat for fish, shellfish, and infauna.

Predominant marsh species here are cordgrass and pickleweed.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	37 27.0	122 05.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Primary concern is that oil will enter Mayfield and Charleston sloughs, exposing extensive saltmarsh, mudflats, and wildlife to oil. Strategies are designed to exclude oil from being transported to inner marsh by deflecting to skimmers and by exclusion booming. Secondary concern is oiling of marsh front. Also of concern is damage to marshes and soft slough bottoms from response activity. Avoid trampling marsh and trampling oil into soft sediments.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead powerlines nearby, and airport traffic in area. Vessels beware of shallow water and strong currents in area: channel is narrow and privately maintained.

SITE STRATEGIES

Strategy 2-372.1 Objective: Deflect oil away from marshes to skimmers. ACP DATE 7/1/1996

a. Deploy 2000' of 18"+ deflection harbor boom across entrance to Mayfield and Charleston Sloughs.
b. Place skimmer in J-hook of boom on north side of channel near small boat dock.
c. Deploy 500' of 18"+ deflection harbor boom across the north entrance of Charleston Slough at the confluence of Mayfield Slough. Create a J-hook against levee and place skimmer or vac truck there.

Strategy 2-372.2 Objective: Exclude oil from entering Charleston Slough ACP DATE 7/1/1996

Deploy 1200' of 18" or smaller curtain boom across southern entrance to Charleston Slough. Place boom along power line tower supports and foot bridge. Back with sorbent booms.

Strategy 2-372.3 Objective: Close all tide gates and salt pond intake structures to exclude oil from expanding to inner marshes and impoundments. ACP DATE 7/1/1996

a. Close large tide gates near confluence of sloughs and tide gate under road near Baylands Nature Preserve Interpretive Center (operated by City of Mountain View).
b. Notify Cargill Salt Co. to close saltwater intake culverts (2x48") on east side of Charleston Slough.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-372.1	2500			500	7	7/25#/danforth	2	1	2	SSS	Shallow draft Bboats & skiffs	13	
2-372.2	0	1200		1200	5	5/25+/danforths	1	1					
2-372.3	0											2	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 101 in Palo Alto, exit east bound on Embarcadero, passt airport to Mayfield public access. Public access area and dock are at mouth of Mayfield Slough. Mountain View Parks Dept. has access roads to south side of Charleston Slough. Possible access at Palo Alto Boat Works. This site includes Mayfield and Charleston Sloughs, including the bay frontage adjacent and open to Charleston Slough, and all inland tributary marshes.

LAND ACCESS: All traffic when levees are dry

WATER LOGISTICS: shallow draft
Limitations: depth, obstruction

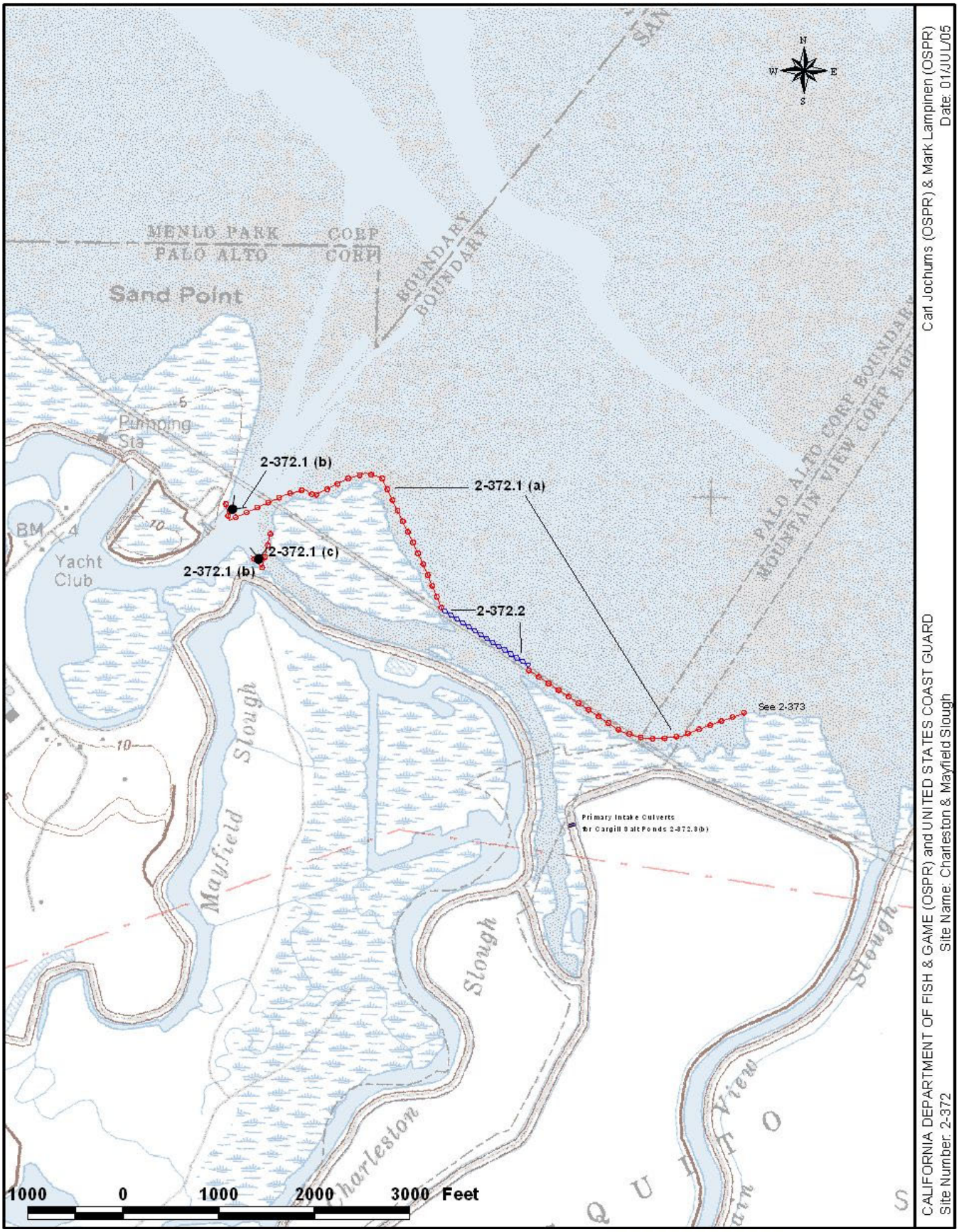
Launching, Loading, Docking and Services Available: Redwood City and Palo Alto Boat Works for launch of large vessels; Mayfield Slough public access area; hand launched vessels at Mayfield Slough dock

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Possibly Palo Alto Boat Works could be used as a staging area. Also, Mayfield Slough public access area.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-373 -A Site Summary- Mountain View Slough

2-373 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Santa Clara		37 27.0	122 05.0
USGS Quad:	Mountain View	NOAA Chart:	18654 San Francisco Bay Southern Part	

Last Page Update : 7/1/1996

SITE DESCRIPTION:

This site includes Mountain View Slough to Hwy 101, and the bay frontage for a half mile on each side of its mouth, and the extensive mudflat at the mouth. It is located on the southwest shore of South San Francisco Bay, four miles south of Dumbarton Bridge. This slough has a fringing cordgrass and pickleweed marsh at the mouth and along its banks. An extensive mudflat, over 1 mile wide, extends from the mouth out to the main channel.

SEASONAL and SPECIAL RESOURCE CONCERNS

Year-round vulnerability to saltmarsh, mudflat, and special status species (see Resources at Risk).

RESOURCES OF PRIMARY CONCERN

The cordgrass and pickleweed marsh at the mouth and along the slough channel are habitat for diverse species including some special status species. The fronting mudflat and channel bottom support a rich biota.

Sensitive bird species found here include: endangered California clapper rail, California brown pelican, American peregrine falcon, California least tern, threatened western snowy plover, California species of special concern - saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: Endangered - salt marsh harvest mouse; Other rare species - saltmarsh wandering shrew. Harbor seals haul out here.

The sloughs and mudflats are important habitat for fish, shellfish and infauna.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	37 27.0	122 05.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The many rare and endangered birds, animals and plants living here are threatened by oil and oil spill response and trampling. Primary concern is to exclude oil from entering the Slough. Secondary concern is to minimize the exposure of the marshes fronting the bay by protective booming. Additional impacts from response and cleanup, and tramping of oil into soft marsh and mudflat sediments are also a concern.

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead powerlines in the area. Watercraft be aware: the outlet to the bay is mostly silted in and undefined, and the water is shallow; the extensive mudflat is over 1 mile wide.

SITE STRATEGIES

Strategy 2-373.1 **Objective: Exclude oil from entering Slough and small marsh channels.** ACP DATE 7/1/1996

a. Deploy several (3-4) layers of 4x4 swamp boom in an inverted "V" formation (chevron exclusion) at mouth of slough. Deploy sorbent boom between each layer of containment boom. Anchor with conventional anchors and stakes.
b. Place fence booms in small marsh channels.
c. Notify Cargill Salt to close all salt water intake culverts to the salt ponds.

NOTE: Airboat, hovercraft, helicopter deployment may be the only way to gain access to this site. In summer (dry season) it may be possible to deploy from south levee near towers.

Strategy 2-373.2 **Objective: Shore line protection booming.** ACP DATE 7/1/1996

Deploy bushy boom, oil snare, swamp boom or sorbent boom along marsh front. Anchor and stake in place.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-373.1	0	1500		4000	12	12/22+/danforth c chain; stakes	0	2			hovercraft or air boat may be necessary	7	
2-373.2	0		2000		4	4/22+/danforth ; stakes	0	2			hovercraft or airboats may be necessary	8	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 101, exit at Shoreline Blvd/Sterlin Rd and proceed bayward to Shoreland at Mountain View Park. Vehicle access is restricted: for levee road access contact City of Mountain View or Cargill Salt Co. This site includes Mountain View Slough to Hwy 101, and the bay frontage for a half mile on each side of its mouth, and the extensive mudflat at the mouth.

LAND ACCESS: 2WD,LG TRK,4WD,ATV when levees are dry.

WATER LOGISTICS:
Limitations: depth, obstruction: EXTREME SHALLOW WATER

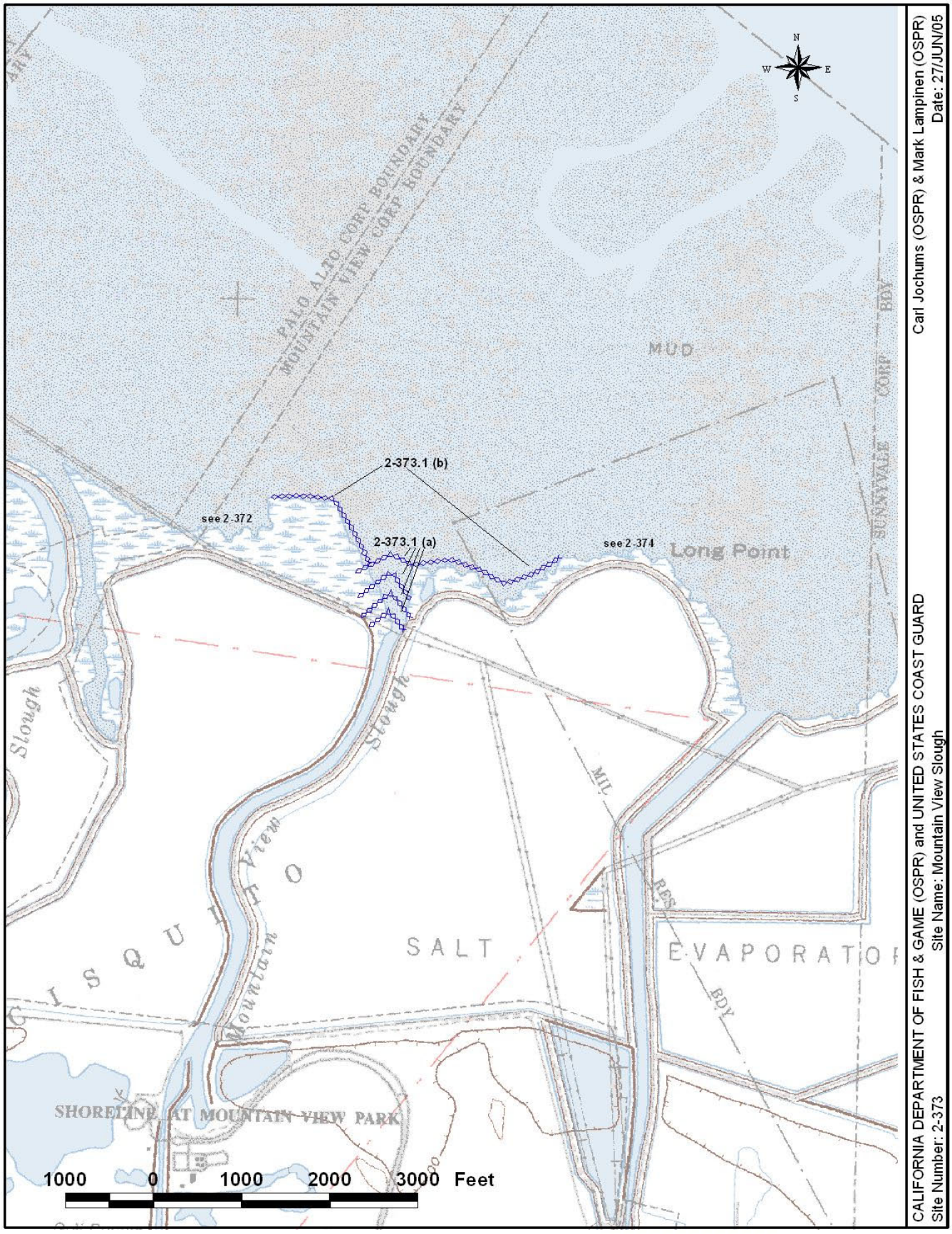
Launching, Loading, Docking and Services Available: Boat launch ramps at Redwood City. Small hand launched boats can deploy from the south levee during summer (dry season). Also, small craft launch at Mayfield Slough.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Staging at Port of Redwood City or public access at Mayfield Slough.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


PALO ALTO CORP BOUNDARY
MOUNTAIN VIEW CORP BOUNDARY
MUD
SUNNYVALE CORP BDY
2-373.1 (b)
2-373.1 (a)
see 2-372
see 2-374
Long Point
Slough
Stevens Creek
Mountain View
MIL
RES
BDY
SALT
EVAPORATOR
SHORELINE AT MOUNTAIN VIEW PARK
1000 0 1000 2000 3000 Feet
Carl Jochums (OSPR) & Mark Lampinen (OSPR)
Date: 27/JUN/05
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Name: Mountain View Slough
Site Number: 2-373
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

2-374 -A Site Summary- Stevens Creek 2-374 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Santa Clara		37 27.0	122 04.0
USGS Quad:	Mountain View	NOAA Chart:	18654 San Francisco Bay Southern Part	

Last Page Update : 7/1/1996

SITE DESCRIPTION:

Site includes creek and marshes that fringe the banks inland (1.5 miles) to Hwy 101 and three quarters of a mile of bay frontage each side of the creek mouth. Located in the extreme South San Francisco Bay between Guadalupe Slough and Mountain View Slough, the creek channel is bounded by levees. Tidal action extends about 1.5 miles upstream. Cargill salt evaporator ponds border the bayward half of the channel, while the landward channel is industrialized to different degrees. There are very extensive mudflats (up to a mile wide) in front of creek.

SEASONAL and SPECIAL RESOURCE CONCERNS

An "A" priority for protection year-round due to saltmarsh, mudflats, and presence of special status species/habitat. Cargill salt water pond intake culverts throughout So. Bay area.

RESOURCES OF PRIMARY CONCERN

The salt marsh at this site supports marsh species which are sensitive and vulnerable entire year. The other major habitat of concern are the extensive shallow mudflats.

This site supports rich bird life including the endangered California clapper rail and a variety of herons, shorebirds and waterfowl.

The endangered salt marsh harvest mouse occurs in this area.

The mudflats are habitat for a diverse infauna (clams, worms, etc.) and are foraging habitat for fish and birdlife.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	37 27.0	122 04.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Stevens Creek. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud.

HAZARDS and RESTRICTIONS:

Aircraft beware of high power wires in the area. Vessels be aware of shallow water.

SITE STRATEGIES

Strategy 2-374.1 Objective: Exclude oil from entering the creek. Deflect oil down-coast.

ACP DATE 7/1/1996

Deploy several (3-4) layers of 100 ft 4x4 swamp boom in an inverted "V" formation (chevron) at mouth of creek. Place Sorbent booms between each layer. Responders may be able to use tidal barrier boom straight across mouth.

Strategy 2-374.2 Objective: Protective booming of marsh front

ACP DATE 7/1/1996

Line bayfront marshes w/ 7000 ft of bushy boom, oil snare or sorbent boom.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-374.1	0	400		800	8	anchors & stakes	0	2				4	
2-374.2	0		7000 SN	7000									

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hwy 101, exit at Shoreline Blvd/Sterlin Rd and proceed bayward to Shoreland at Mountain View Park. Further vehicle access is restricted: for levee road access contact City of Mountain View or Cargill Salt Co. Site includes creek and marshes that fringe the banks inland (1.5 miles) to Hwy 101 and three quarters of a mile of bay frontage each side of the creek mouth.

LAND ACCESS: LG truck, 2WD : Levee roads impassable in winter.

WATER LOGISTICS:
Limitations: depth, obstruction: Very shallow/no ac at low tide

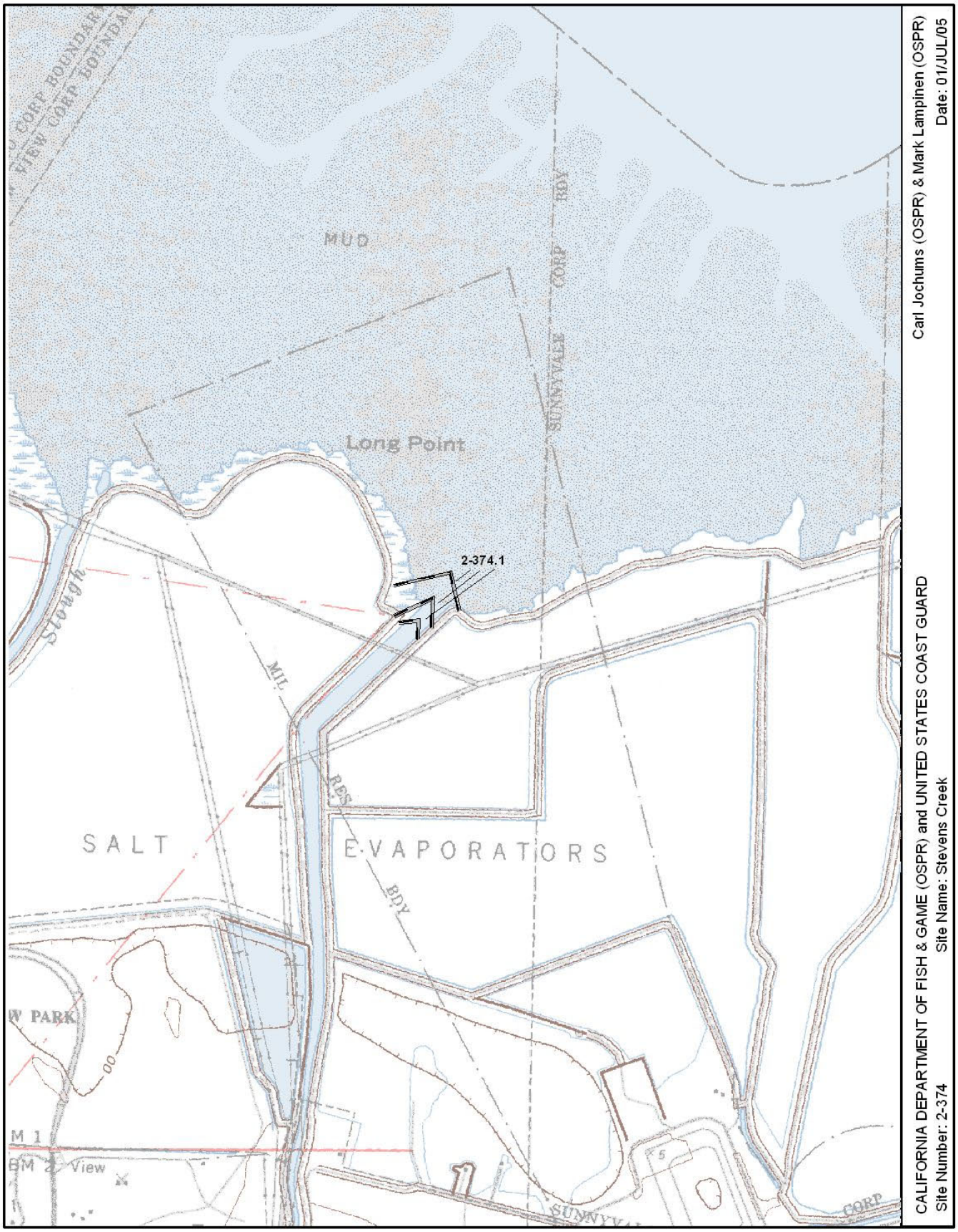
Launching, Loading, Docking and Services Available: Launch skiffs upstream at mid to high tide.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Stage upstream in business parking area..

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-375 -A Site Summary- Guadalupe Slough

2-375 -A

Thomas Guide Location	Latitude N	Longitude W
	37 27.0	122 02.0

County: Santa Clara

USGS Quad: Mountain View

NOAA Chart: 18654 San Francisco Bay Southern Part

Last Page Update : 7/1/1997

SITE DESCRIPTION:

Guadalupe Slough extends from its mouth on Coyote Creek inland about five miles to Sunnyvale Baylands County Park and beyond though the City of San Jose. This site is a large channel on the southwest shore of South San Francisco Bay, four miles southeast of the Dumbarton Bridge. It has marshes and mudflats near its mouth and along its banks, cordgrass and pickleweed marshes on both sides. This large levee-bound slough is a navigable waterway with strong currents near the mouth. Cargill Salt Co. evaporation ponds border most of the length of this slough.

SEASONAL and SPECIAL RESOURCE CONCERNS

"A" priority year-round due to vulnerable saltmarsh plants and wildlife (see Resources at Risk).

RESOURCES OF PRIMARY CONCERN

There are saltmarshes (Spartina and Salicornia) and mudflats along the bay frontage and the length of the slough which are vulnerable to oil impacts.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; Threatened - western snowy plover; California Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive mammals species found here include: California Species of Special Concern - saltmarsh wandering shrew.

The drainage supports a small run of chinook salmon. The mudflats have a rich infauna and are important habitat for fish and wading birds.

Shellfish.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	37 27.0	122 02.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Guadalupe Slough. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mud. Notify Cargill Salt Co. to close any water intake structures

HAZARDS and RESTRICTIONS:

Aircraft beware of overhead powerlines in area. Vessels be aware of strong currents exist near the mouth and shallow mudflats. Vehicles be aware that levees are impassable in wet winters.

SITE STRATEGIES

Strategy 2-375.1 Objective: Exclude oil from entering Guadalupe Slough and adjacent marshes. ACP DATE 7/1/1996

a. Deploy 2500 ft of 18" curtain boom from both levees towards skimmer in part of channel with slow current. Use tidal barrier or swamp boom across marsh and mudflat. Strong currents will make location of equipment upstream from mouth probable. ALTERNATIVE: Use several layers (2-3) of 4x4 swamp boom (7500 ft) with less skirt in strong currents. Use same configuration as in step 1.
b. Place skimmers outside mouth in deeper water near confluence of Coyote Creek and Guadalupe Slough.
c. Notify Cargill Salt Co. to close any salt water intake culverts to salt ponds in area.

Strategy 2-375.2 Objective: Protective booming of bayfrontage marshes from oiling and oil intrusion. ACP DATE 7/1/1996

To minimize oil entering slough along fringing tidal marsh, deploy 500 ft of sorbent or swamp boom along marsh front outside mouth in both directions.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-375.1	2500	7500					2	2	2	SPS or S		32	
2-375.2	0	1000					0	2				8	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

From Hayward-San Mateo Bridge, take Hwy 101 south to Hwy 237 east. Exit at Caribbean Drive and proceed to Borregas Avenue. Contact City of Sunnyvale Water Pollution Control Plant (see add'l contact list). Access restricted by NASA and the US Navy. Guadalupe Slough extends from its mouth on Coyote Creek inland about five miles to Sunnyvale Baylands County Park and beyond though the City of San Jose.

LAND ACCESS: 2WD,LG Truck,4WD

WATER LOGISTICS:
Limitations: depth, obstruction: Possible at low tide only

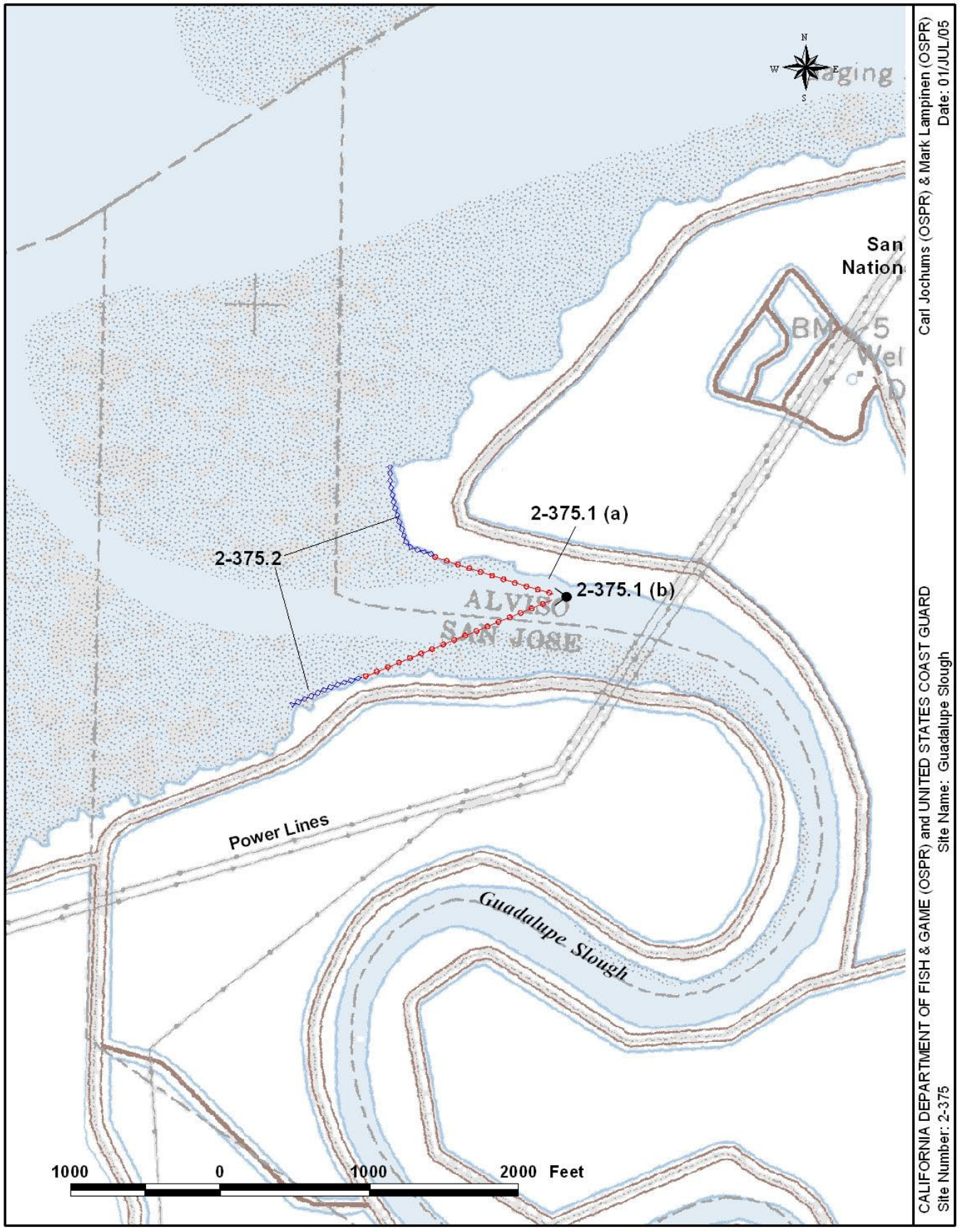
Launching, Loading, Docking and Services Available: Small boat ramp at NASA fuel barge dock upstream: entry by permission only through Moffett Field; road is paved. Redwood City launch ramp for all size boats.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

There is a small staging area at NASA fuel barge dock. Larger staging may be arranged at Moffatt Field.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-376 -A Site Summary- Alviso Slough 2-376 -A

Thomas Guide Location	Latitude N	Longitude W
	37 27.0	122 01.0

County: Santa Clara

USGS Quad: Mountain View

NOAA Chart: 18654 San Francisco Bay Southern Part

Last Page Update : 7/1/1996

SITE DESCRIPTION:

Site extends from the mouth on Coyote Creek inland for about six miles to the railroad track at Alviso Marina. This is a waterway with marshes and mudflats near its mouth and along its banks. Alviso Slough is a water channel on the southwest shore of south San Francisco Bay, five miles southeast of the Dumbarton Bridge. It is a tributary to Coyote Creek surrounded by saltmarsh. The northeasterly and first two miles of west margins are part of San Francisco Bay National Wildlife Refuge.

SEASONAL and SPECIAL RESOURCE CONCERNS

RESOURCES OF PRIMARY CONCERN

There are pickleweed and cordgrass marshes along the slough.

Sensitive bird species found here include: Endangered - California clapper rail, California brown pelican, American peregrine falcon, California least tern; Threatened - western snowy plover; Calfinoria Species of Special Concern: saltmarsh common yellowthroat, Alameda song sparrow. Also, large numbers of a wide variety of birds nest and winter here: shorebirds, waterfowl, wading birds, and waterbirds.

Sensitive animal species found here include: Endangered - salt marsh harvest mouse and CA Species of Special Concern -salt marsh wandering shrew.

Shellfish, fish are present

Sensitive plant species found here include: the Delta tule pea, (Lathyrus jepsonii ssp. jepsonii), and northcoast bird's-beak (Cordylanthus maritimus ssp. Palustris).

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison -(916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
		Empty	
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Janet Hanson	SF Bird Observatory	(650) 728-5816
	Valerie Layne	SF Bird Observatory	(650) 728-5816
	Scott Miner	US Army Corps of Engineers	(415) 744-3039
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Butch Paredes	Cargill Salt	(510) 790-8165

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	37 27.0	122 01.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

The concern is oil and response impacts to marsh, wildlife, and rare and endangered birds, animals and plants which are present year-round. Primary objective is to minimize exposure by excluding oil from entering Alviso Slough. Secondary objective is to minimize exposure and impacts to bay frontage marshes by protective booming. Always of concern is the impacts resulting from response and cleanup: avoid trampling marsh and sensitive plants and animals, avoid disturbing soft mudflats, and avoid trampling oil into marsh and mudflats.

HAZARDS and RESTRICTIONS:

Be aware of overhead powerlines and shallow water. Head of slough at marina almost completely silted in.

SITE STRATEGIES

Strategy 2-376.1 Objective: Collection booming to prevent oil from entering Alviso Slough. ACP DATE 7/1/1996

Deploy 18"+ or 8"+ curtain boom from both levees to skimmer in mid-channel. Use tidal barrier boom or swamp boom across marsh and mudflat.

Strategy 2-376.2 Objective: Deflect oil past slough and keep oil in Coyote Creek for skimming. ACP DATE 7/1/1996

a. Deflection boom, using 100' segments, along south shore of Coyote Creek to keep oil away from Alviso Slough and in deep water.
b. Deploy boom and skimmers near power line towers for collection.

Strategy 2-376.3 Objective: Protective booming of marsh front near mouth. ACP DATE 7/1/1996

Line marsh front near mouth with swamp and sorbent boom.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-376.1	1000	2000		2000	10	Anchors and stakes	0	2	2	SFS		9	
2-376.2	0								1	SFS			
2-376.3	0												

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Take Hwy 880 south to Hwy 237 west and exit at Zanker Road. Turn right on Zanker Road to Esteros Road. Follow Esteros Road to Access Road which leads to the Alviso Slough. Roadway access is secured by a locked gate. Contact San Jose/Santa Clara Water Pollution Control to gain entry. 700 Esteros Road, San Jose, CA (408) 945-5300 (24 hours). Access to levee from SFBNWR and Cargill Salt Co.
Site extends from the mouth on Coyote Creek inland for about six miles to the railroad track at Alviso Marina.

LAND ACCESS: 4WD

WATER LOGISTICS: Shallow draft vessels <6'
Limitations: depth, obstruction

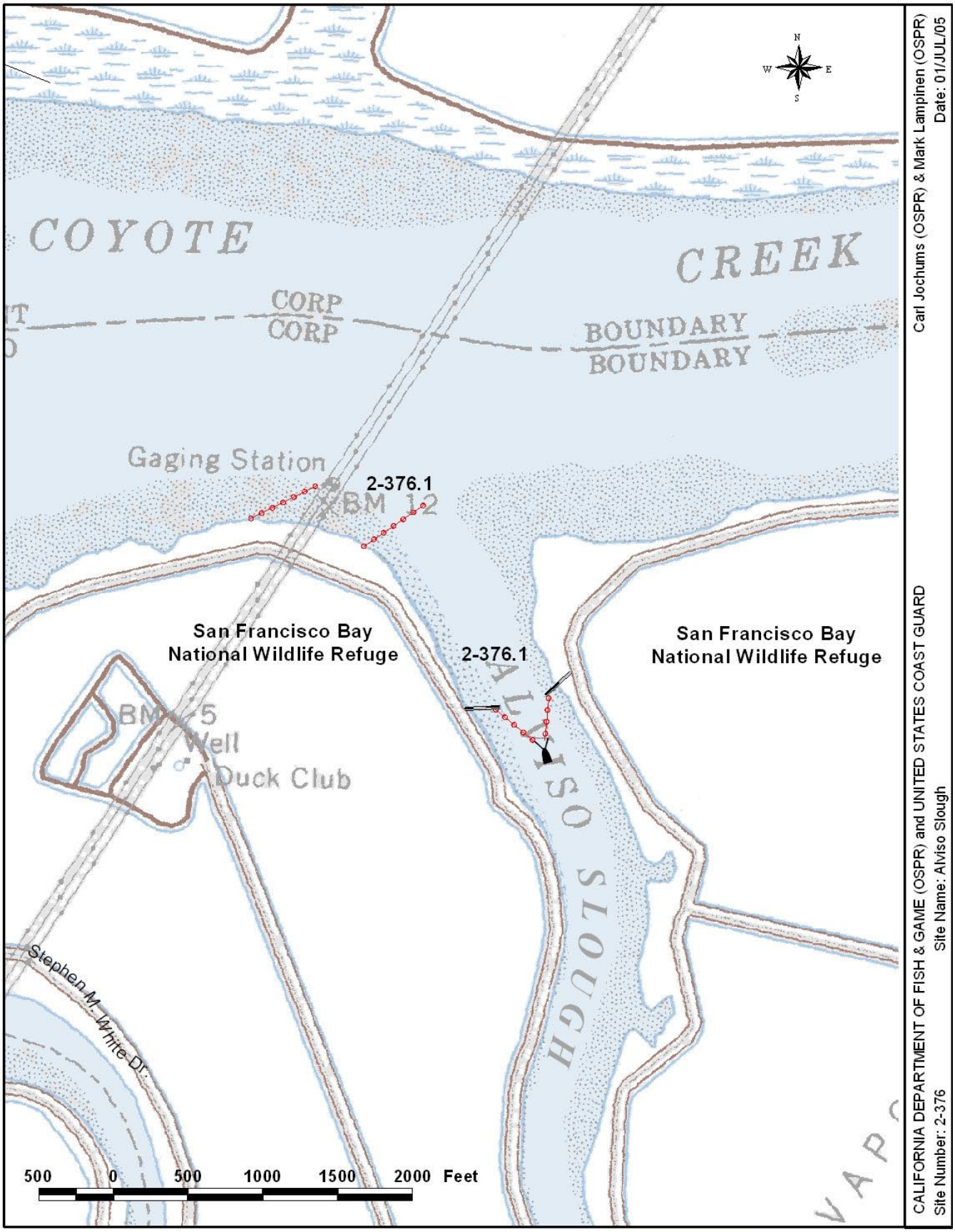
Launching, Loading, Docking and Services Available: Small boats at high tide at Alviso Marina. Redwood City launch ramp for all boats.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

Alviso Marina

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:



Harbor Boom
Swamp Boom
sss / sfs

Sorbent Boom
Other Boom
tsa / sps

Dike or Berm
Excellcior Fence
tba/voo

2-378 -A Site Summary- Mallard Slough 2-378 -A

		Thomas Guide Location	Latitude N	Longitude W
County:	Santa Clara		37 27.0	121 58.0
USGS Quad:	Milpitas	NOAA Chart:	18654 San Francisco Bay Southern Part	

Last Page Update : 7/1/1995

SITE DESCRIPTION:

This slough is a tributary of Coyote Creek (2-346) in the extreme end of south San Francisco Bay. It extends from its confluence with Coyote Creek upstream to the outfall of the San Jose Sewage Treatment Plant (STP).

Mallard Slough has fresh and brackish marshes along its banks due to the freshwater input from the San Jose STP (the largest freshwater source for South San Francisco Bay). This freshwater inflow maintains brackish conditions for most of Coyote Creek. The slough is leveed, resulting in strip marshes along the banks. Cargill salt evaporation ponds flank the slough, and the STP and urban development form its headwaters. Most of the slough is in South San Francisco Bay National Wildlife Refuge.

SEASONAL and SPECIAL RESOURCE CONCERNS

This slough has "A" priority throughout the year; however, it is most vulnerable from 1 April through 31 August when herons are nesting: egrets and ibises build nests in the tules.

RESOURCES OF PRIMARY CONCERN

This shallow slough is fringed with emergent brackish and freshwater marsh, with shallow fronting mudflats.

This is an important rookery for herons and egrets. Over 700 pairs of the following birds nest in the area: Snowy Egrets, Great Egrets, Black-crowned Night herons, Little Blue heron, White-faced ibis.

CULTURAL, HISTORIC, and ARCHEOLOGICAL SENSITIVITIES

There are probably historic and cultural sites present. Contact the California Dept of Parks and Recreation - Office of Historic Preservation (Eric Allison (916) 653-9125), and the Northwest Information Center, (Leigh Jordan, Sonoma State College ((707) 664-0880)) for specific information on historic or cultural resources in this area.

KEY CONTACTS: Trustee (T); Entry/Owner/Access (E); Cultural (C); or Other Assistance (O)

Type	Name / Title	Organization	Phone
	Joy Albertson	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222
	Clyde Morris	US Fish & Wildlife Service, SF Bay (NWR)	(510) 792-0222

ADDITIONAL SITE SUMMARY COMMENTS:

County and Thomas Guide Location	NOAA CHART	Latitude N	Longitude W
Santa Clara	18654 San Francisco Bay Southern Part	37 27.0	121 58.0

Last Page Update :

CONCERNS and ADVICE to RESPONDERS:

Concern is to exclude oil from entering the slough. If oil enters the slough and oils marshes, stay out of the slough. Activity should proceed only with presence of US Fish and Wildlife experts since this is an important nesting area for herons, especially in April through August: there could be severe impacts from cleanup activity.

HAZARDS and RESTRICTIONS:

Vessels should be aware of shallow water: Mud Slough is silted in - no access.

SITE STRATEGIES

Strategy 2-378.1 **Objective: Excludion booming at mouth Coyote Creek. Collect oil at Coyote Creek/Alviso Slough.**

ACP DATE 7/1/1996

a. In addition to on water skimming near mouth of Coyote Creek and near powerline towers, place 2 lines of deflection boom (2 X 1000) across Mud Slough from north bank to point of land between channels.
b. In Coyote Creek, near confluence with Mud Slough, use deflection harbor boom (1500ft) from both banks to center of channel to skimmer. NOTE: Mud Slough is silted in at low tide and inaccessible to boats. The current tends to flow past Mud Slough and continues up Coyote Creek.

Table of Response Resources

strategy number	harbor boom	swamp boom	Other boom type	sorb boom	Anchoring no	Anchoring type and gear	Boom boat	Skiffs punts	Skimmers No	Skimmers Type	Special Equipment No and kinds	staff deploy	Staff tend
2-378.1	3500				9	9/22+/danforth	2	2	1	SPS		14	

LOGISTICS

DIRECTIONS: to site (by land and/or by water, to nearest launch ramp and are access permits required.)

Foot and vehicle access: contact SF Bay National Wildlife Refuge. Boat access:approach via Coyote Creek.

LAND ACCESS: Levee roads can support a wide variety of vehicles during dry months.

WATER LOGISTICS: Very shallow water
Limitations: depth, obstruction

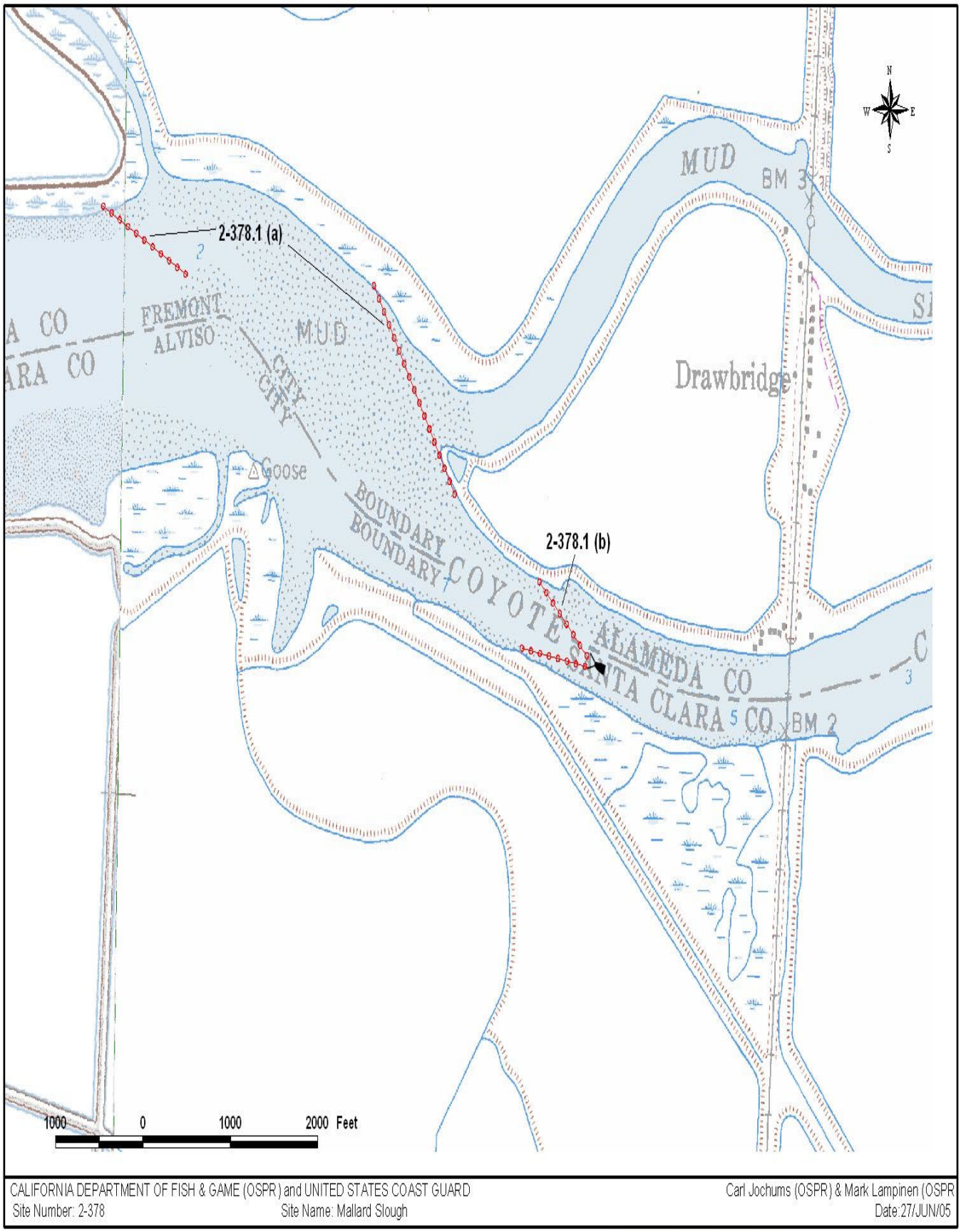
Launching, Loading, Docking and Services Available: Only small boats can be launched from levees. Nearest boat ramp is at Redwood City Harbor.

FACLITIES, STAGING AREAS, POSSIBLE FIELD POSTS AND EQUIPMENT AVAILABLE:

From adjacent levees or Redwood City Harbor.

COMMUNICATIONS PROBLEMS:

ADDITIONAL OPERATIONAL COMMENTS:


2-378.1 (a)
2-378.1 (b)
MUD
BM 3
FREMONT
ALVISO
MUD
Drawbridge
Goose
BOUNDARY
BOUNDARY
COYOTE
ALAMEDA CO
SANTA CLARA CO
BM 2
1000 0 1000 2000 Feet
CALIFORNIA DEPARTMENT OF FISH & GAME (OSPR) and UNITED STATES COAST GUARD
Site Number: 2-378
Site Name: Mallard Slough
Carl Jochums (OSPR) & Mark Lampinen (OSPR
Date:27/JUN/05
Harbor Boom
Swamp Boom
sss / sfs
Sorbent Boom
Other Boom
tsa / sps
Dike or Berm
Excellcior Fence
tba/voo

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9843.2 Cultural and Other Resources at Risk

9843.21 Cultural Resources, Historic and Archeological Resources – see Section 9802.1, Section 9840 for contact table, and individual Site Summaries

9843.22 Essential Fish Habitat – see Section 9802.2

9843.23 Other Resources at Risk/Eelgrass – see also Section 9840 and individual Site Summaries

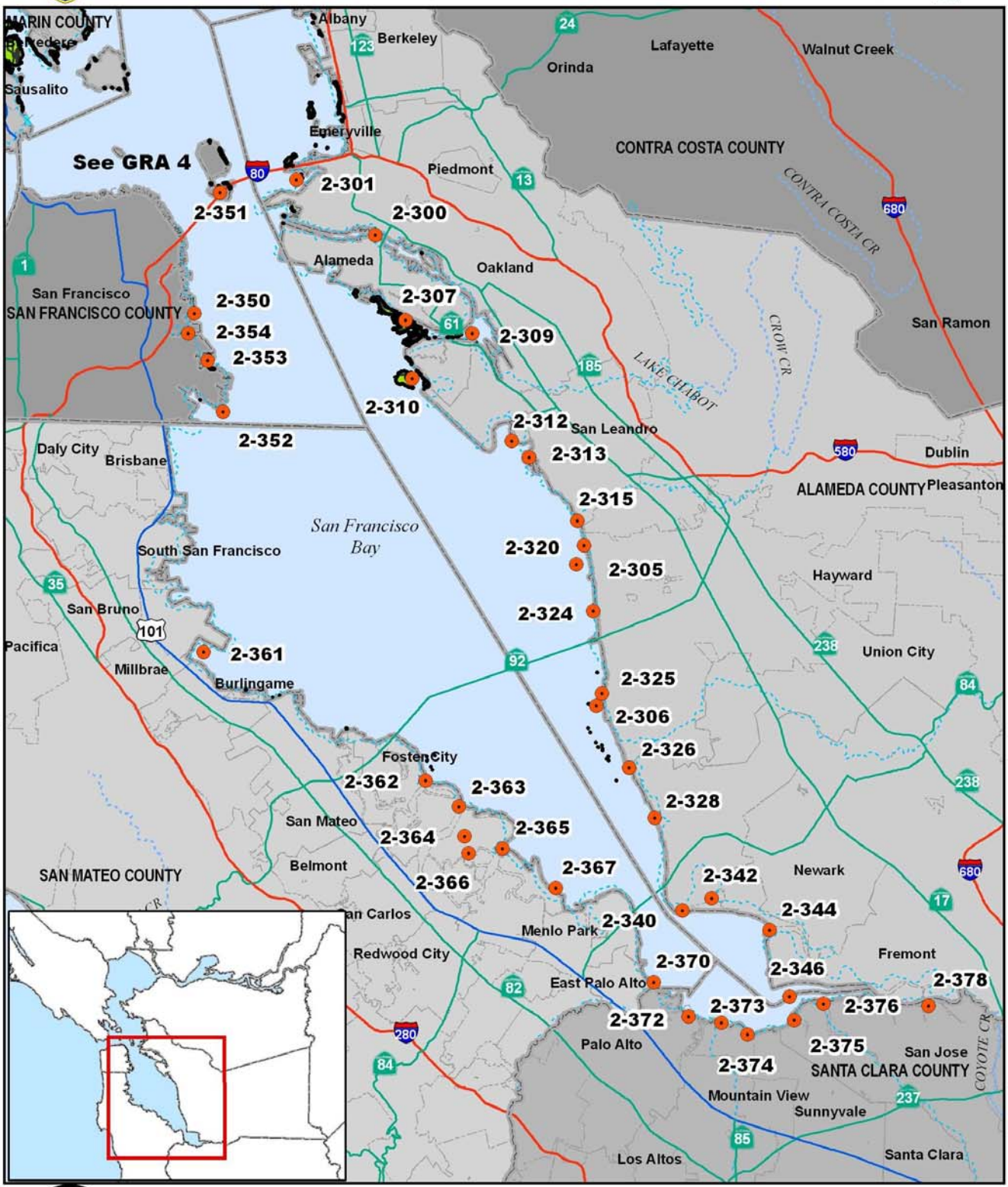
The shallow subtidal areas and tidal flats of the San Francisco Bay and Delta region support relatively few plant communities. Eelgrass (Zostera marina) is currently the only seagrass found in San Francisco Bay. Eelgrass beds create a valuable shallow-water habitat, providing shelter, feeding, and/or breeding habitat for many species of invertebrates, fishes, and waterfowl. The current eelgrass populations may be the last remnants in San Francisco Bay and are extremely vulnerable to local extinction. Eelgrass beds can vary in distribution, density, and height from year to year. Eelgrass is vulnerable to oil based on its location and physiology.

Eelgrass is more vulnerable to oil than most marine and aquatic plants. Eelgrass leaves are rough and do not have a mucous layer like many seaweeds, therefore oil will readily attach. Eelgrass occurs in shallow water and often forms a canopy layer on the water surface, presenting an increased risk of oiling. Oil sticks to the floating eelgrass tops. Once eelgrass gets fouled with oil, oil becomes a subsurface threat to fish and other organisms which thrive in this cover and the leaves will continue to sheen, prolonging oil exposures.

Site specific areas containing eelgrass beds have been identified in this GRA subsection and in some instances as an individual Sensitive Site. Protective strategies for eelgrass are based on its location and surface exposure in the intertidal and subtidal zones. Eelgrass would be exposed to oil and is at greatest risk in areas where it is found in the intertidal zone, but oiling can also occur with subtidal eelgrass beds when eelgrass leaves are at the surface during spring tides, particularly in the summer months.

A Sensitive Site with eelgrass as its sensitive resource is given a Category “A” resource sensitivity when eelgrass leaves are exposed at the surface during the spill and a Category “C” when the leaves stay submerged. If a spill occurs, an OSPR Resources At Risk Technical Specialist must assess the site to determine if eelgrass is at risk based on density, location and tidal exposure. Specific Site Strategies for protection of eelgrass beds are found in the individual GRA’s Sensitive Site Strategy and include assessment and booming recommendations.

San Francisco Geographic Response Area 3
South Bay
Eelgrass Sites



9843.3 Economic Sites

Strictly economic resources are designated as the third priority for dedication of oil spill response resources, following human health and safety and environmental resources. The economic sites are ranked using a continuation of the environmental scale with D, E, and F categories. Economic resources that have a greater potential for long-term damages receive a higher rank or priority for emergency response.

The following criteria or definitions are used to categorize economic resources in terms of priority for response:

D = Economic activities and resources which require high water quality for their operations or existence. Resources that fall into this category would face severe, long-term economic impacts from a spill.

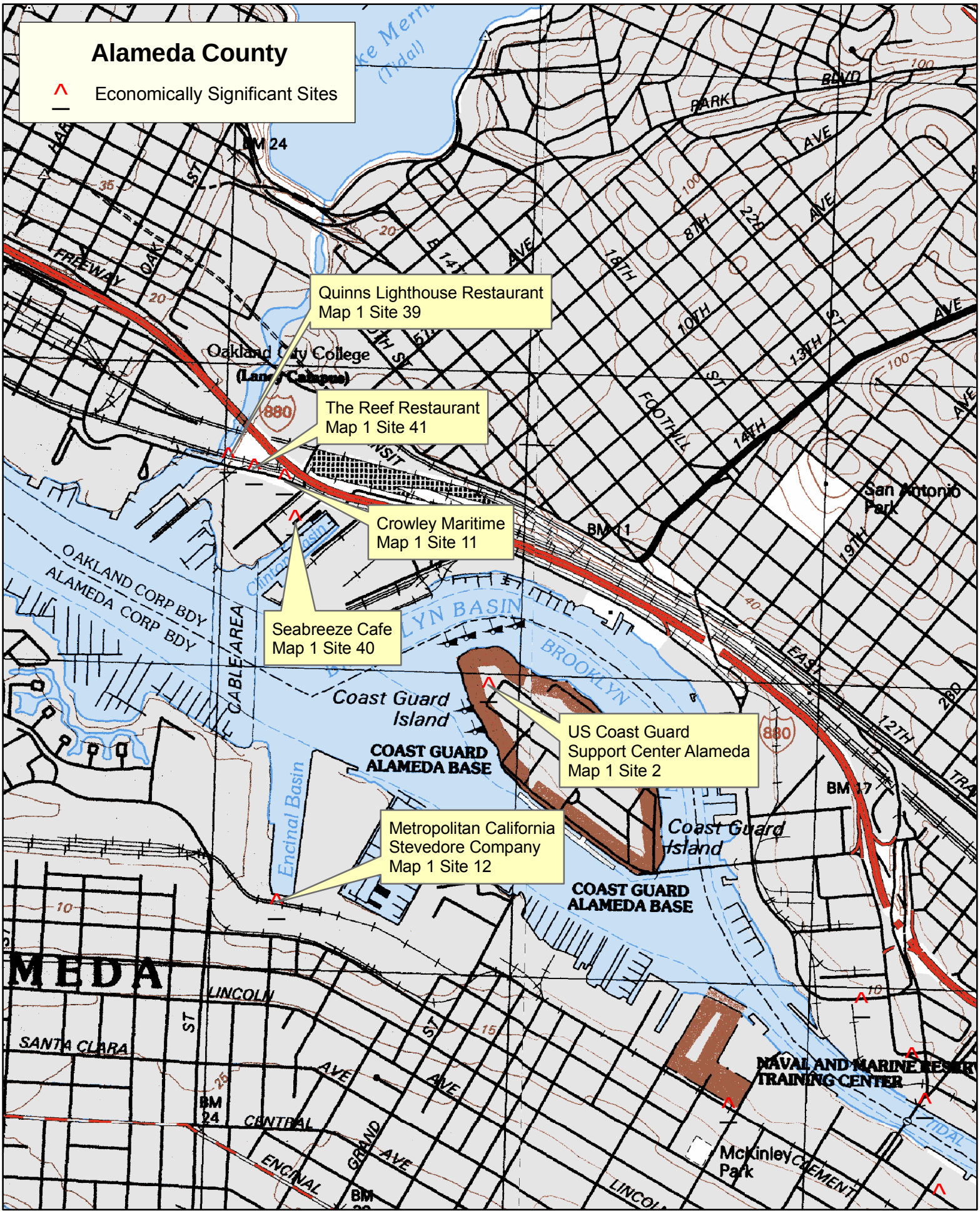
E = Facilities, businesses, or resources which directly use coastal or bay waters within their economic activity and which are at risk of oiling from a spill in marine waters. The resources falling into this category would face significant disruption of their activity, but shorter term potential damages from oiling that resources "D" category.

F = This category contains marine associated facilities, businesses and resources. These resources would face economic impacts from a marine spill, but do not depend directly on marine water for their economic base. Resources in this category will tend to face less severe damages than those identified in categories D or E.

In the following section, economic sites found within the GRA are listed in table format, which contain information such as latitude, longitude, economic sensitivity, etc. Following the table are diagrams denoting the location of an economically sensitive site(s). Diagrams are organized alphabetically by county, then numerically by map and site number.

Economic Sites in GRA 3									
Line No.	Map Description	Site Name	Site Description	Latitude	Longitude	Economic Sensitivity	Site Function	Site Address	GIS Site No.
1	Map 1 Site 2 Alameda County	US Coast Guard Support Center Alameda	USCG Pacific Area Commander Rescue Coordination Center Marine Safety Office Pacific Logistics HQ Ship Support	37.78	-122.25	E			1001
2	Map 1 Site 5 Alameda County	Tidewater Sand & Gravel		37.76	-122.22	E	Barge Handling Facility	4501 Tidewater Avenue, Oakland	1002
3	Map 1 Site 6 Alameda County	Stone Boat Yard		37.77	-122.23	E	Marine Railway/Boatworks	2517 Blanding Avenue, Alameda	1003
4	Map 1 Site 7 Alameda County	CONAGRA Flour Milling Company		37.78	-122.24	E	Food Processing, Barge Landing Facility	2201 E. 7th Street, Oakland	1004
5	Map 1 Site 8 Alameda County	Sea Power Marine		37.77	-122.24	E	Boatworks, Crane	333 Kennedy Street, Oakland	1005
6	Map 1 Site 9 Alameda County	DUTRA Construction		37.77	-122.24	E	Marine Construction	2199 Clement Avenue, Alameda	1006
7	Map 1 Site 11 Alameda County	Crowley Maritime		37.79	-122.26	E	Marine Railway/Boatworks	1995 Embarcadero, Oakland	1007
8	Map 1 Site 12 Alameda County	Metropolitan California Stevedore Co.		37.78	-122.26	E	Ship Terminal, Containerized Petroleum, General Cargo	1521 Buena Vista Avenue, Alameda	1008
9	Map 1 Site 14 Alameda County	Red and White Fleet		37.81	-122.27	E	Crowley Maritime Maintenance Facility	Broadway & Franklin Sts., Oakland	1009
10	Map 1 Site 15 Alameda County	Stevedoring Services of America - Howard Terminal	Berths 67-69	37.80	-122.29	E	Ship Terminal - General Cargo	1 Market Street, Oakland	1010
11	Map 1 Site 16 Alameda County	Schnitzer Steel Industries	Foot of Adeline Street	37.80	-122.29	E	Ship Terminal, General Cargo		1011
12	Map 1 Sites 17 & 18 Alameda County	Alameda Gateway Inc., Crowley Maritime		37.79	-122.29	E	Ship Terminal - General Cargo	2900 Main Street, Alameda (Sites 17 & 18 combined, same address)	1012
13	Map 1 Site 19 Alameda County	American President Lines		37.80	-122.29	E	Shipping Terminal	1395 Middle Harbor Road, Oakland	1013
14	Map 1 Site 20 Alameda County	Oscar Niemeth Towing		37.81	-122.33	E	Towboat Services	4001 7th Street, Oakland	1014
15	Map 1 Site 22 Alameda County	Matson Terminals, Inc.	Berths 32-34	37.81	-122.33	E	Shipping Terminal - Containerized Cargo	3050 7th Street, Oakland	1015
16	Map 1 Site 24 Alameda County	Maersk Line	Berth 24	37.81	-122.31	E	Shipping Terminal - Containerized Cargo	909 Ferry Street, Oakland	1016
17	Map 1 Site 25 Alameda County	Transbay Container Terminal	Berths 25 & 26	37.81	-122.32	E	Shipping Terminal - Containerized Cargo	707 Ferry Street, Oakland	1017
18	Map 1 Site 26 Alameda County	Outer Harbor Marine	Berth 23	37.81	-122.31	E	Shipping Terminal - Containerized Cargo	1195 Maritime Street, Oakland	1018
19	Map 1 Site 27 Alameda County	Sea-Land Container Terminal	Berths 20-22	37.81	-122.31	E	Shipping Terminal - Containerized Cargo	2277 7th Street, Oakland	1019
20	Map 1 Site 28 Alameda County	Bay Bridge Terminal	Berths 8-10	37.82	-122.31	E	Shipping Terminal - Containerized Cargo	1625 Maritime Street, Oakland	1020
21	Map 1 Site 29 Alameda County	Club Nautique		37.77	-122.29	E	Sailing School/Charter	1150 Ballena Blvd., Alameda	1021
22	Map 1 Site 31 Alameda County	Mariner Yacht Charters	Jack London Square	37.79	-122.27	E	Charter Party Cruising		1022
23	Map 1 Site 39 Alameda County	Quinn's Lighthouse Restaurant		37.79	-122.26	F	Restaurant	51 Embarcadero Drive, Oakland	1026
24	Map 1 Site 40 Alameda County	Seabreeze Cafe		37.79	-122.26	F	Restaurant	280 6th Avenue, Oakland	1027
25	Map 1 Site 41 Alameda County	The Reef Restaurant		37.79	-122.26	F	Restaurant	1000 Embarcadero, Oakland	1028
26	Map 1 Site 44 Alameda County	Pier 29 Restaurant		37.77	-122.23	F	Restaurant	300 29th Avenue, Oakland	1029
27	Map 1 Site 45 Alameda County	Shenanigans Restaurant		37.79	-122.28	F	Restaurant	30 Jack London Square, Oakland	1030
28	Map 1 Site 46 Alameda County	Jack's Waterfront Restaurant		37.79	-122.28	F	Restaurant	1 Broadway, Oakland	1031
29	Map 1 Site 47 Alameda County	The Whales Tale Restaurant		37.77	-122.29	F	Restaurant	1144 Ballena Blvd., Alameda	1032
30	Map 1 Site 57 Alameda County	Robert Crown Memorial State Beach	c/o East Bay Regional Park District	37.76	-122.27	D	Park/Recreation		1042
31	Map 1 Site 53 Alameda County	San Francisco Bay National Wildlife Refuge	Fremont Unit, Mowry Unit, Alviso Unit,	37.52	-122.09	D	Park/Preserve Areas		1038
32	Map 1 Site 54 Alameda County	Coyote Hills Regional Park	c/o East Bay Regional Park District	37.55	-122.08	D	Park/Recreation	2950 Peralta Oaks Court, Oakland	1039
33	Map 1 Site 55 Alameda County	Hayward Regional Shoreline	c/o East Bay Regional Park District	37.62	-122.15	D	Park/Recreation		1040
34	Map 1 Site 56 Alameda County	San Leandro Bay Regional Shoreline	c/o East Bay Regional Park District	37.74	-122.21	D	Park/Recreation		1041
35	Map 1 Site 23 San Francisco County	South Beach Harbor		37.78	-122.38	E	Large Marina, 700 Slips		75023
36	Map 1 Site 24 San Francisco County	China Basin		37.78	-122.39	E/F	Boat Launches, Dry Dock, Restaurant, Entrance to Mission Creek, Houseboats		75024
37	Map 1 Site 25 San Francisco County	Pier 80 North		37.75	-122.37	E	Container Terminal, Cargo and Shipping		75025
38	Map 1 Site 26 San Francisco County	Pier 96 South		37.74	-122.37	E	Container Terminal, Cargo and Shipping		75026
39	Map 1 Site 27 San Francisco County	Pier 98		37.74	-122.37	E	Landfill, Wetlands, Public Park		75027
40	Map 2 Site 1 San Mateo County	Brisbane Shoreline and Lagoon	Sierra Point Pkwy East of Hwy 101. (	37.68	-122.39	E	Public Managed Fishing & Recreation Area		81008
41	Map 2 Site 2 San Mateo County	Brisbane Marina		37.67	-122.39	E	Recreational Berths	400 Marina Blvd., Brisbane	81009
42	Map 2 Site 3 San Mateo County	Oyster Cove Marina		37.67	-122.39	E	Recreational Berths	385 Oyster Cove, South San Francisco	81010
43	Map 2 Site 4 San Mateo County	Oyster Point Marina		37.66	-122.38	E	Recreational Berths/Launch Ramp/Fuel/ Hoist	95 Harbor Master Blvd., South San Francisco	81011
44	Map 2 Site 5 San Mateo County	South San Francisco Shoreline		37.65	-122.37	F	Non-Coastal Dependent Industry		81012
45	Map 2 Site 6 San Mateo County	San Bruno Canal		37.65	-122.38	F	Non-Coastal Dependent Industry		81013
46	Map 2 Site 7 San Mateo County	San Francisco International Airport		37.62	-122.38	D	International Commercial Airport		81014
47	Map 2 Site 8 San Mateo County	Millbrae/Burlingame Shoreline		37.60	-122.37	E	Hike/Bike Trail/ Burlingame Wildlife Sanctuary, Burlingame Recreational Slough/ Private Hotels, Restaurants, and Businesses		81015
48	Map 2 Site 10 San Mateo County	Coyote Point Marina		37.59	-122.32	E	Recreational Berths/Ramp and Fuel		81016
49	Map 2 Site 11 San Mateo County	San Mateo Hike/Bike Trail		37.58	-122.28	E	Hiking, Biking Trail, Marina, Lagoon, Tide Gates		81017

Economic Sites in GRA 3									
Line No.	Map Description	Site Name	Site Description	Latitude	Longitude	Economic Sensitivity	Site Function	Site Address	GIS Site No.
50	Map 2 Site 12 San Mateo County	Foster City Shoreline	Residential just South of San Mateo Bridge	37.57	-122.25	E	Hike/Bike Trail, Residential, Water Intakes for Lagoons		81018
51	Map 2 Site 13 San Mateo County	Redwood Shores, Belmont Slough, Wildlife Refuge		37.55	-122.23	E	Private Residences, Publicly Redwood City Managed		81019
52	Map 3 Site 15 San Mateo County	Redwood City, Bair Island, Grecco Island, Corkscrew Slough, Steinberger Slough, Redwood Creek		37.54	-122.19	E	City Shoreline, Salt Pond, Publicly Managed Wildlife Refuge		81020
53	Map 3 Site 16 San Mateo County	Port of Redwood City	Can Provide Support Facilities	37.51	-122.21	E	Commercial Deepwater Port	675 Seaport Blvd., Redwood Creek	81021
54	Map 3 Site 17 San Mateo County	Port of Redwood City Yacht Harbor		37.50	-122.20	E	Recreational Berths Launch Ramp	451 Seaport, Redwood Creek	81022
55	Map 3 Site 19 San Mateo County	Pete's Harbor		37.50	-122.22	E	Recreational Berths, Restaurants	1 Uccelli Blvd., Redwood City	81023
56	Map 3 Site 20 San Mateo County	Docktown Marina		37.49	-122.22	E	Recreational Berths, Ramp Hoists, Retail Supplies	1548 Maple Street, Redwood Cit	81024
57	Map 3 Site 21 San Mateo County	Menlo Park Shoreline, Ravenswood Slough, Cooley Landing Marsh		37.50	-122.12	D	Publcly Managed Wildlife Refuge/Salt Ponds		81025
58	Map 1 Site 3 Santa Clara County	Palo Alto Airport		37.45	-122.11	E	Regional Airport	1925 Embarcadero Road, Palo Alto	85001
59	Map 1 Site 4 Santa Clara County	San Francisco Bay National Wildlife Refuge, Alviso Unit	Alviso Unit	37.45	-121.99	D	Park/Preserve Area		85004
60	Map 1 Site 5 Santa Clara County	Alviso Marina Park	c/o City of Sunnyvale	37.42	-121.98	D	Park/Recreational Area		85005
61	Map 1 Site 6 Santa Clara County	Sunnyvale Baylands County Park	c/o City of Sunnyvale	37.42	-122.01	D	Park/Recreational Area		85006
62	Map 1 Site 7 Santa Clara County	Shoreline Park	c/o City of Mountain View	37.43	-122.08	D	Park/Recreational Area	3070 N. Shoreline Blvd., Mountain View	85007
63	Map 1 Site 8 Santa Clara County	Byxbee Park (Baylands Nature Preserve)	c/o City of Palo Alto	37.46	-122.11	D	Park/Recreational Area	3201 E. Bayshore Road, Palo Alto	85008



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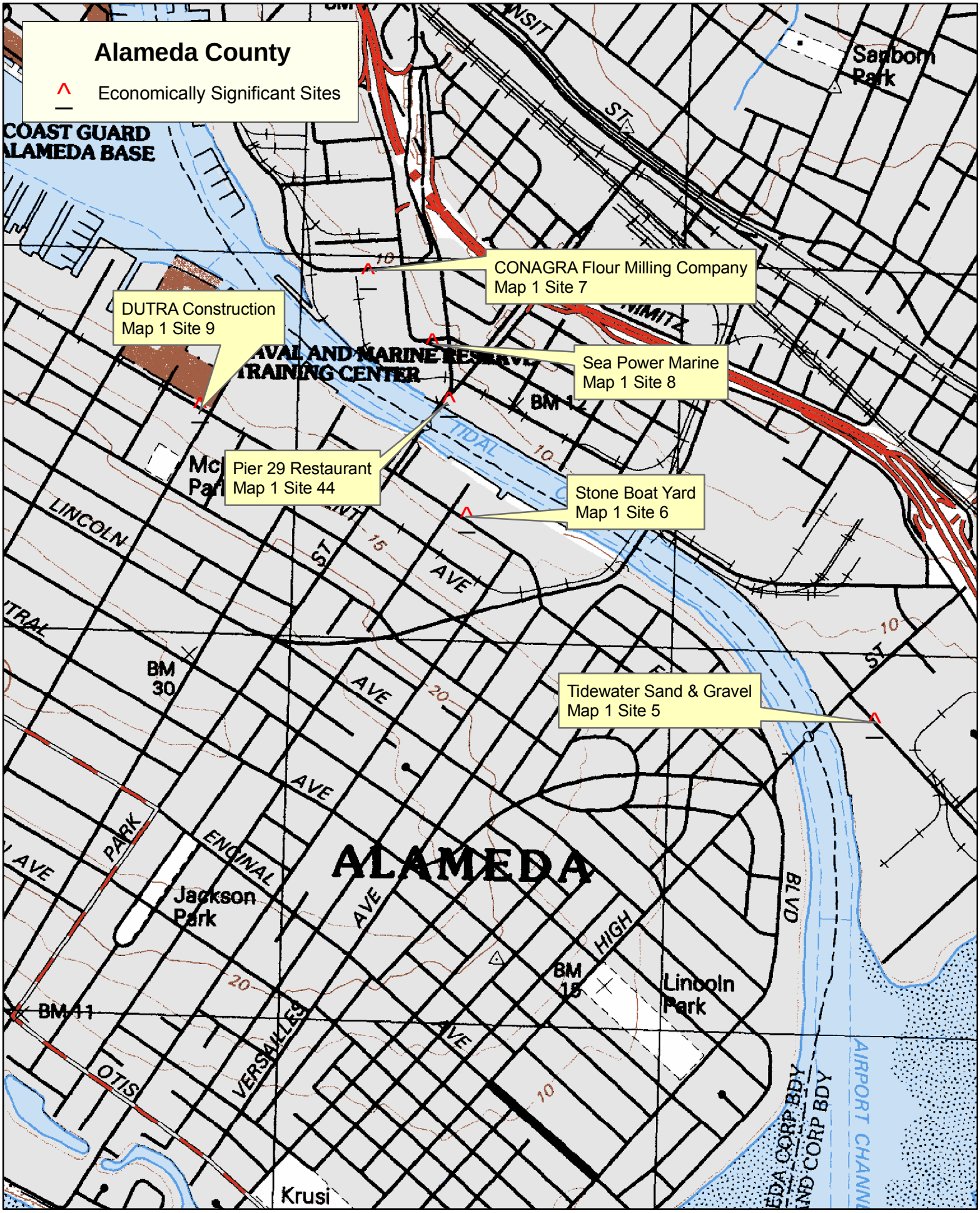
Office of Spill Prevention and Response
Alameda County Layout 001



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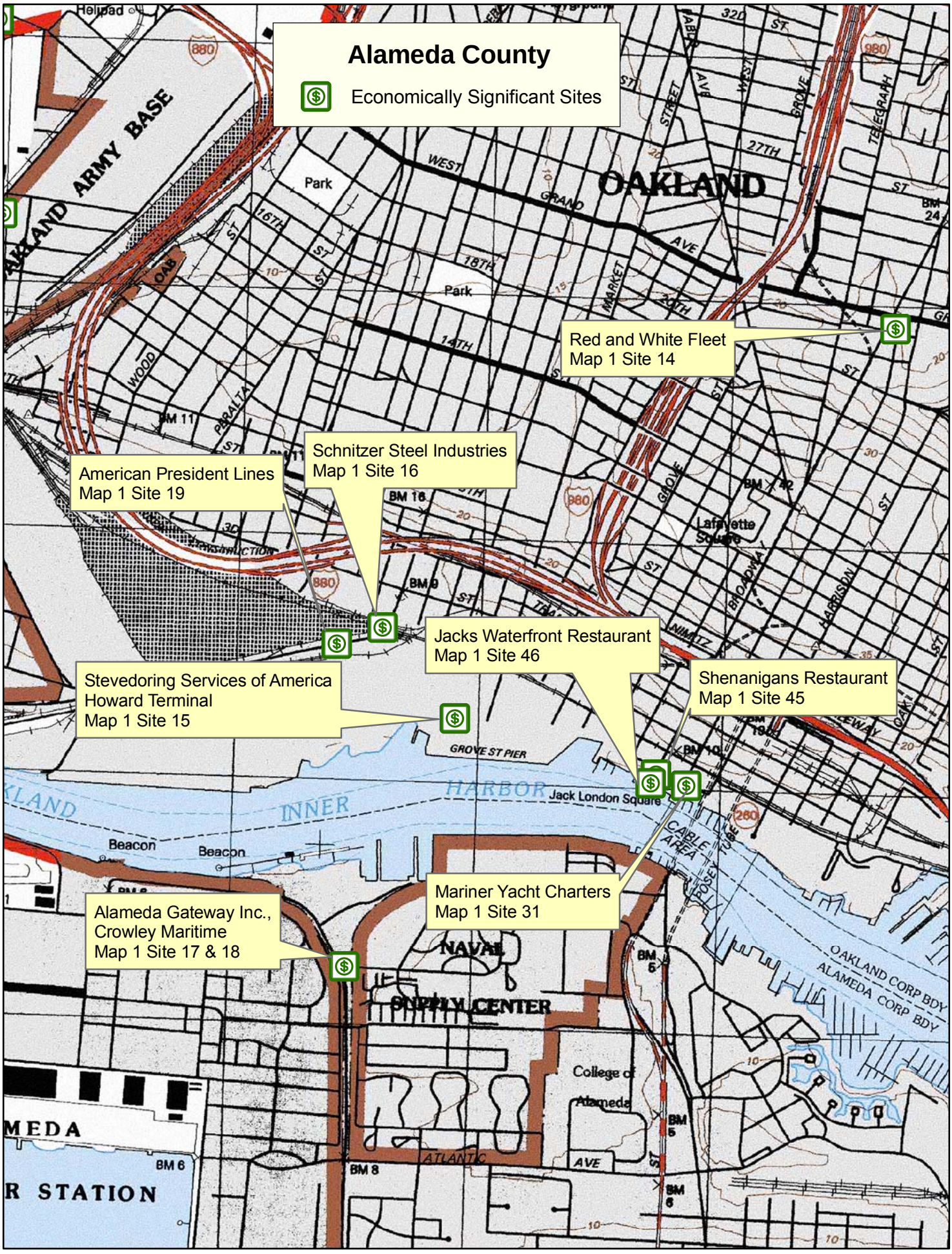
Office of Spill Prevention and Response
Alameda County Layout 002


Alameda County
Economically Significant Sites
Red and White Fleet
Map 1 Site 14
Schnitzer Steel Industries
Map 1 Site 16
American President Lines
Map 1 Site 19
Jacks Waterfront Restaurant
Map 1 Site 46
Stevedoring Services of America
Howard Terminal
Map 1 Site 15
Shenanigans Restaurant
Map 1 Site 45
Mariner Yacht Charters
Map 1 Site 31
Alameda Gateway Inc.,
Crowley Maritime
Map 1 Site 17 & 18
OAKLAND
ARMY BASE
NAVAL
SUPPLY CENTER
INNER HARBOR
Jack London Square
GROVE ST PIER
College of Alameda
OAKLAND CORP BDY
ALAMEDA CORP BDY
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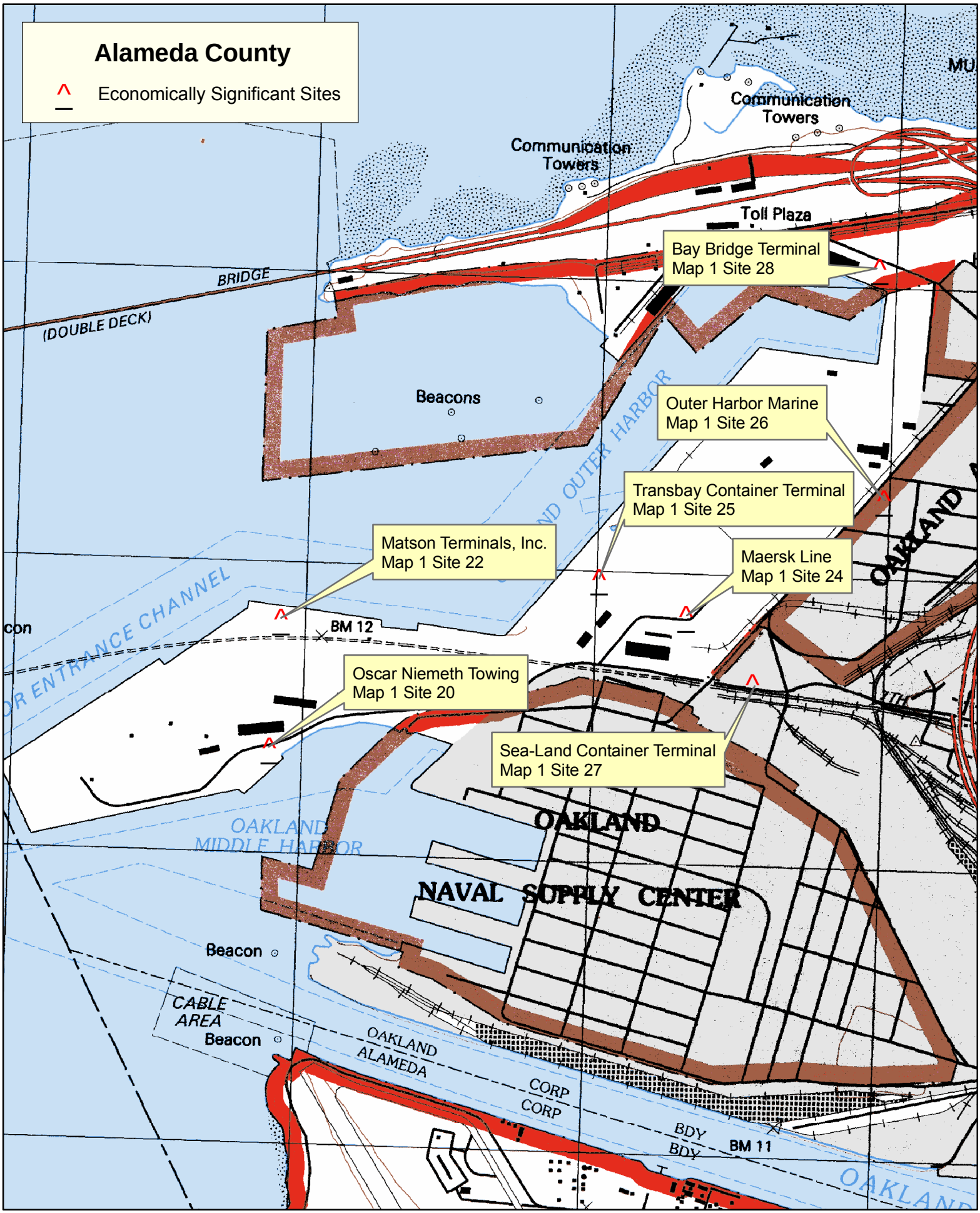
California Department of Fish and Game
Office of Spill Prevention and Response
Alameda County Layout 004



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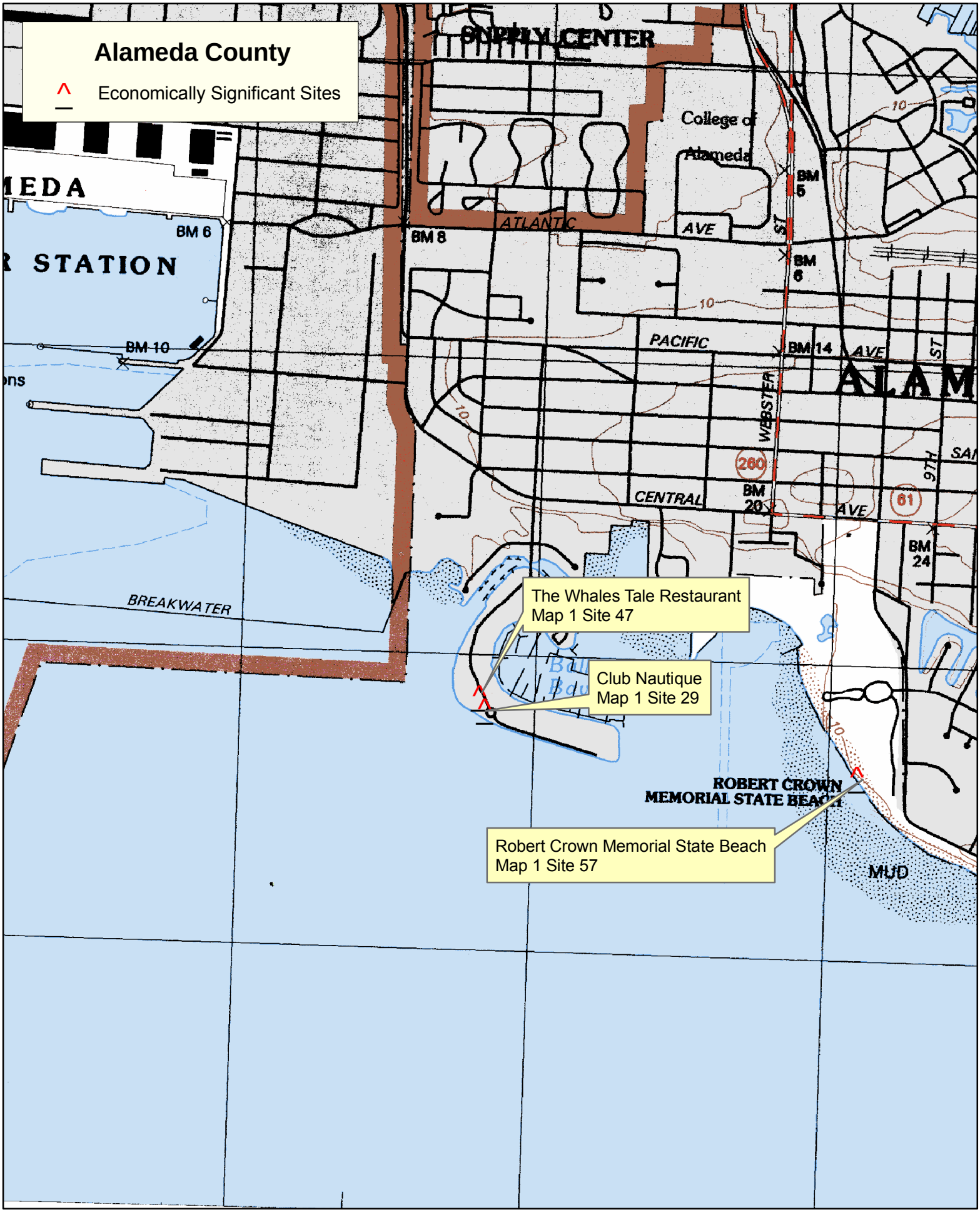
California Department of Fish and Game
Office of Spill Prevention and Response
Alameda County Layout 005



0.25 0 0.25 Miles

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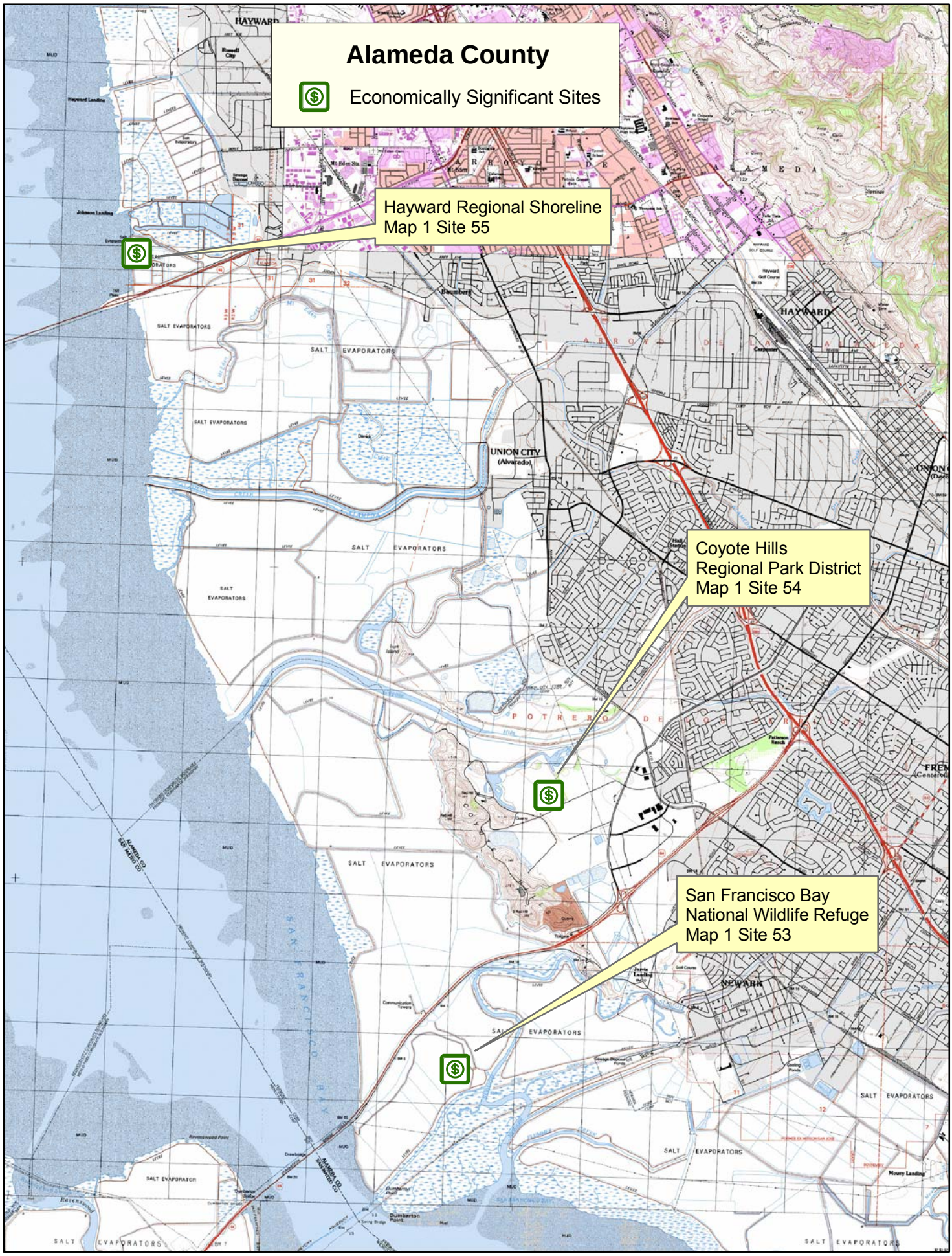
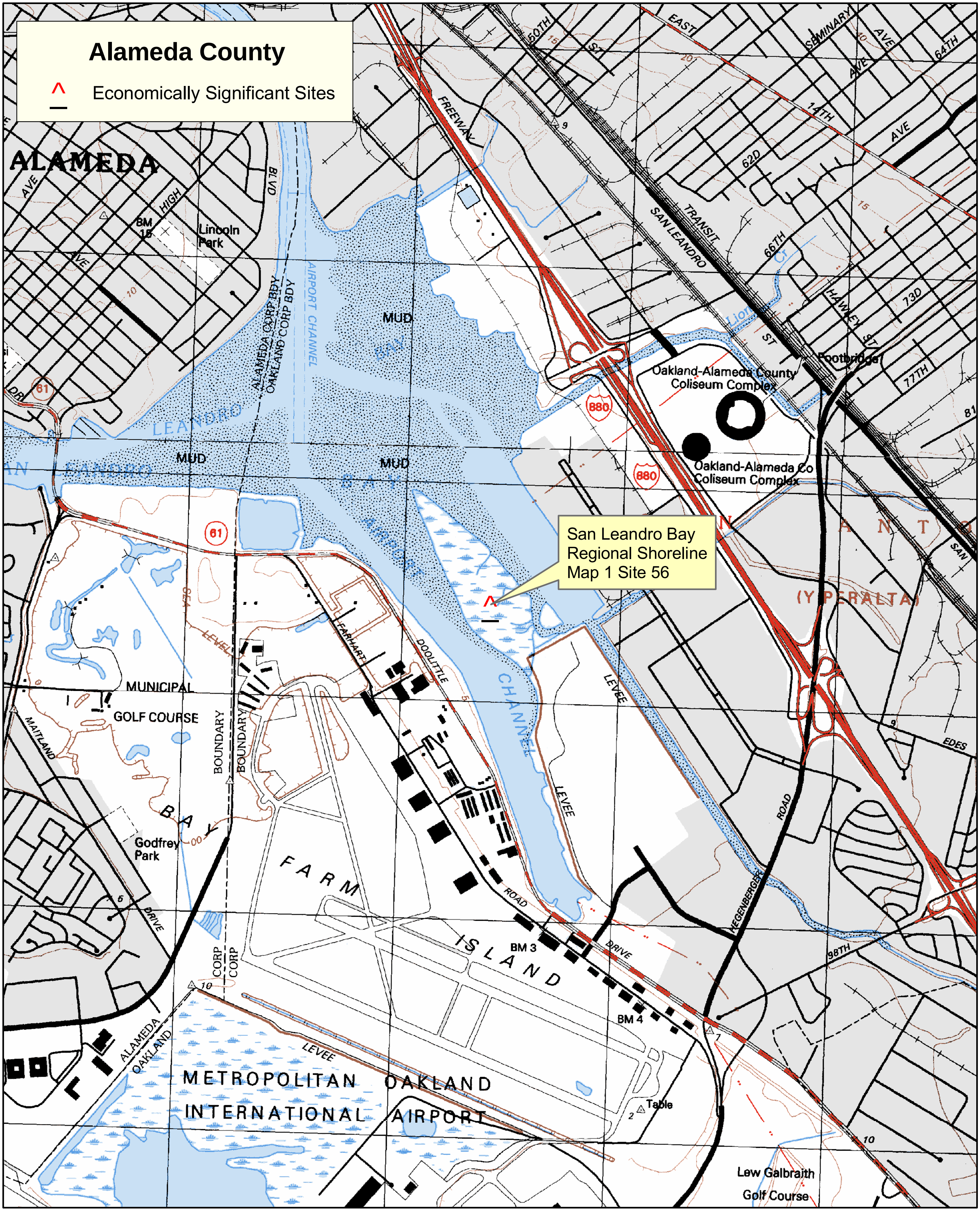
California Department of Fish and Game
Office of Spill Prevention and Response
Alameda County Layout 006



1 0 1 2 Miles

California Department of Fish and Game
Office of Spill Prevention and Response
Alameda County Layout 009



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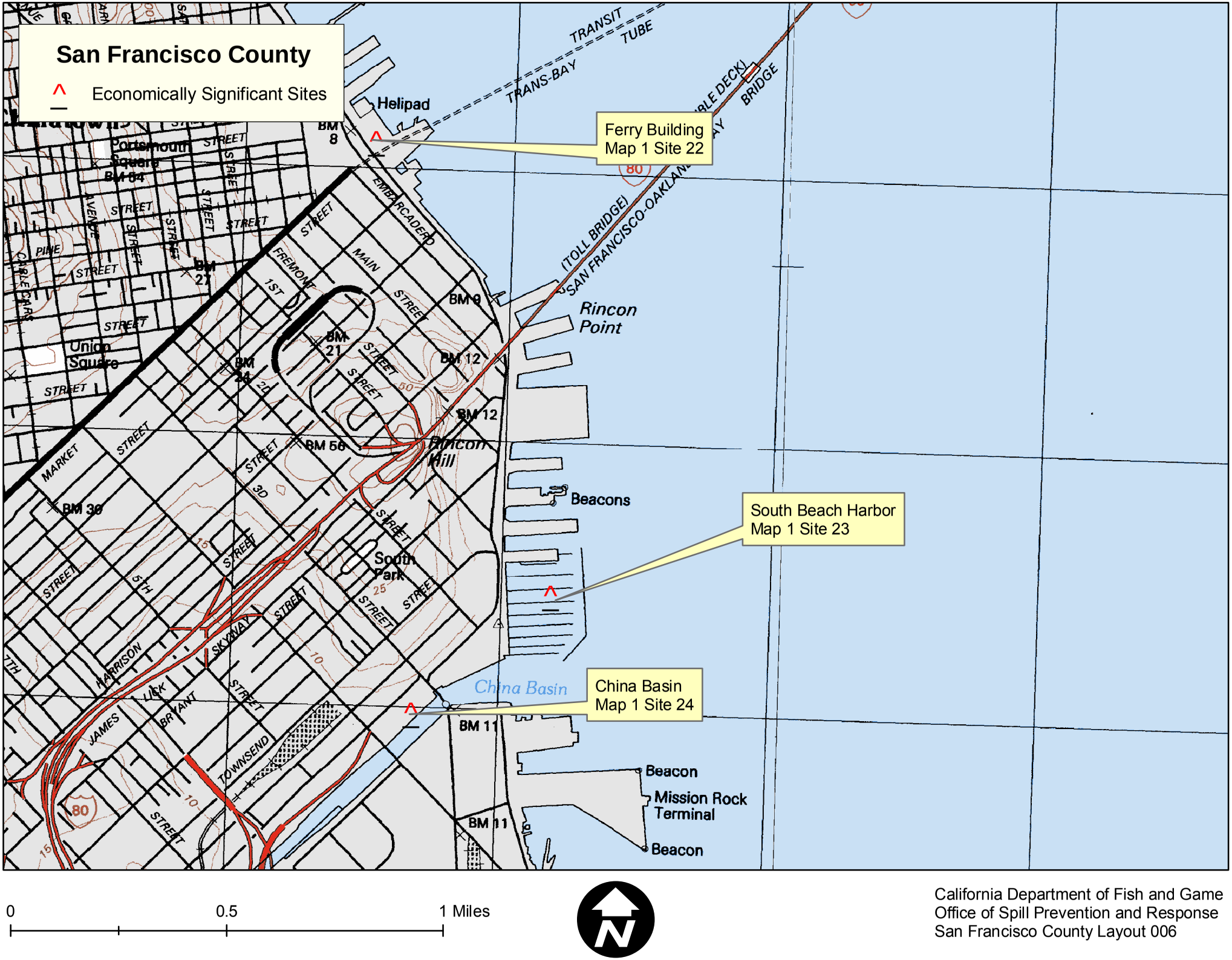
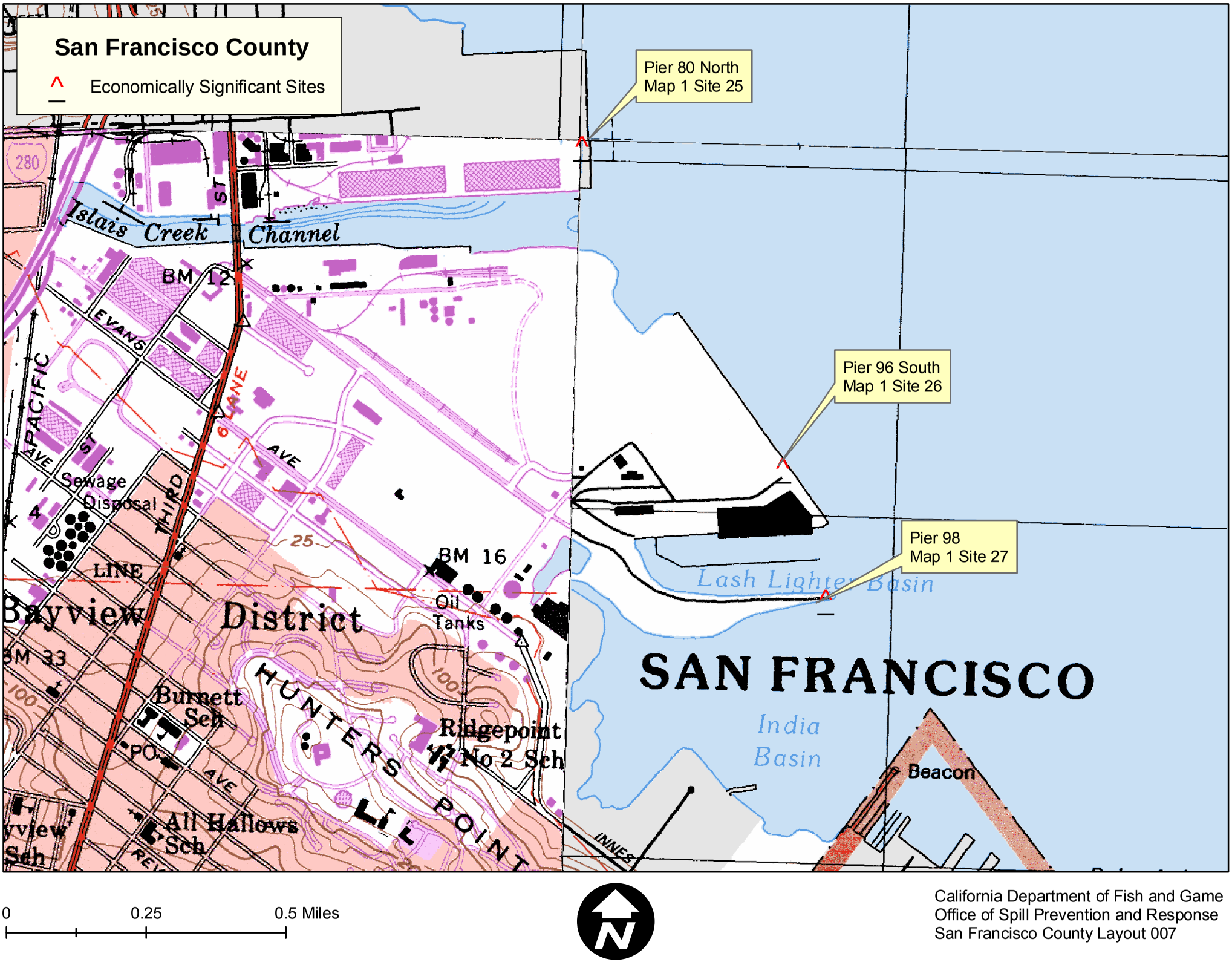
California Department of Fish and Game
Office of Spill Prevention and Response
Alameda County Layout 012

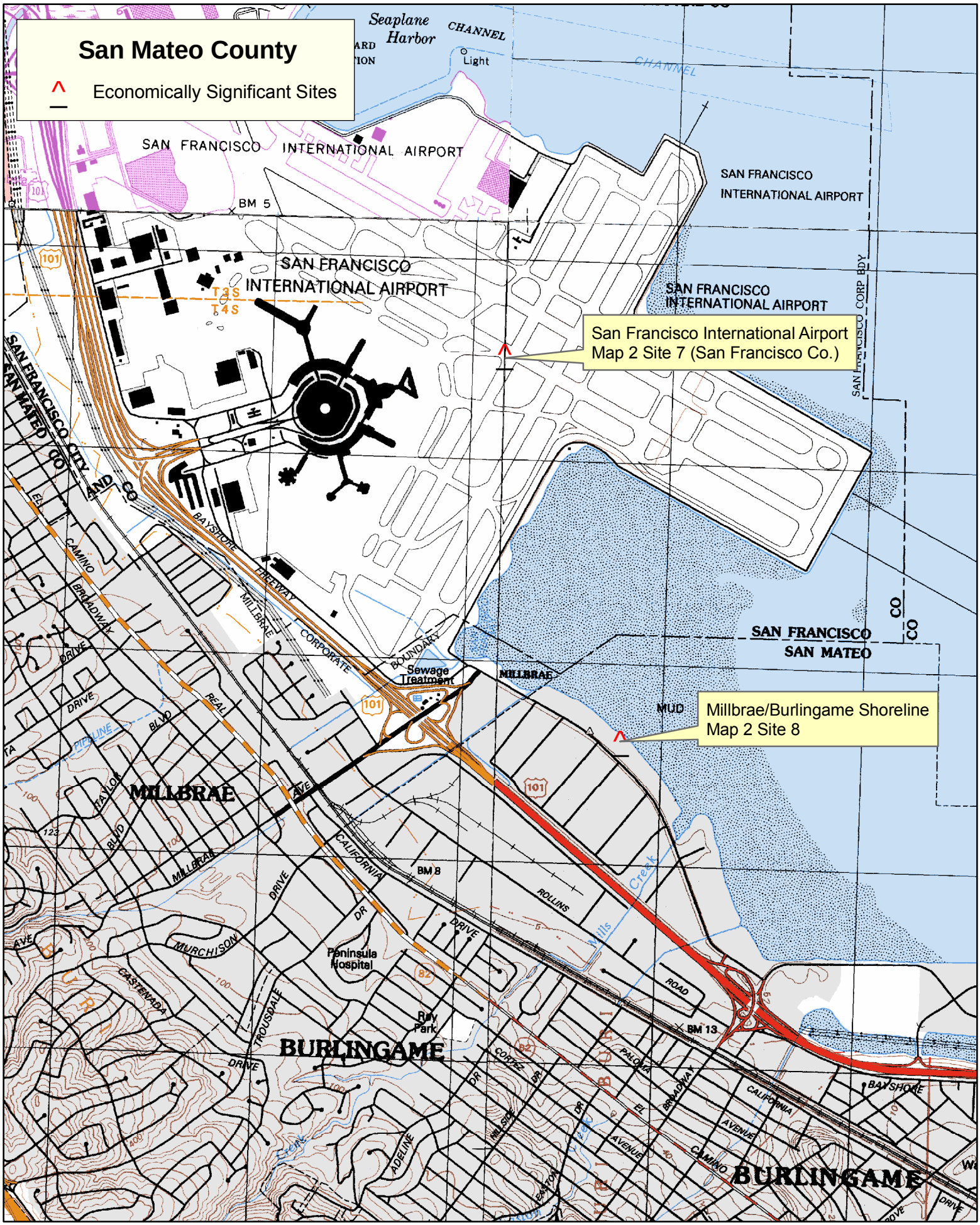


California Department of Fish and Game
Office of Spill Prevention and Response
San Francisco County Layout 006

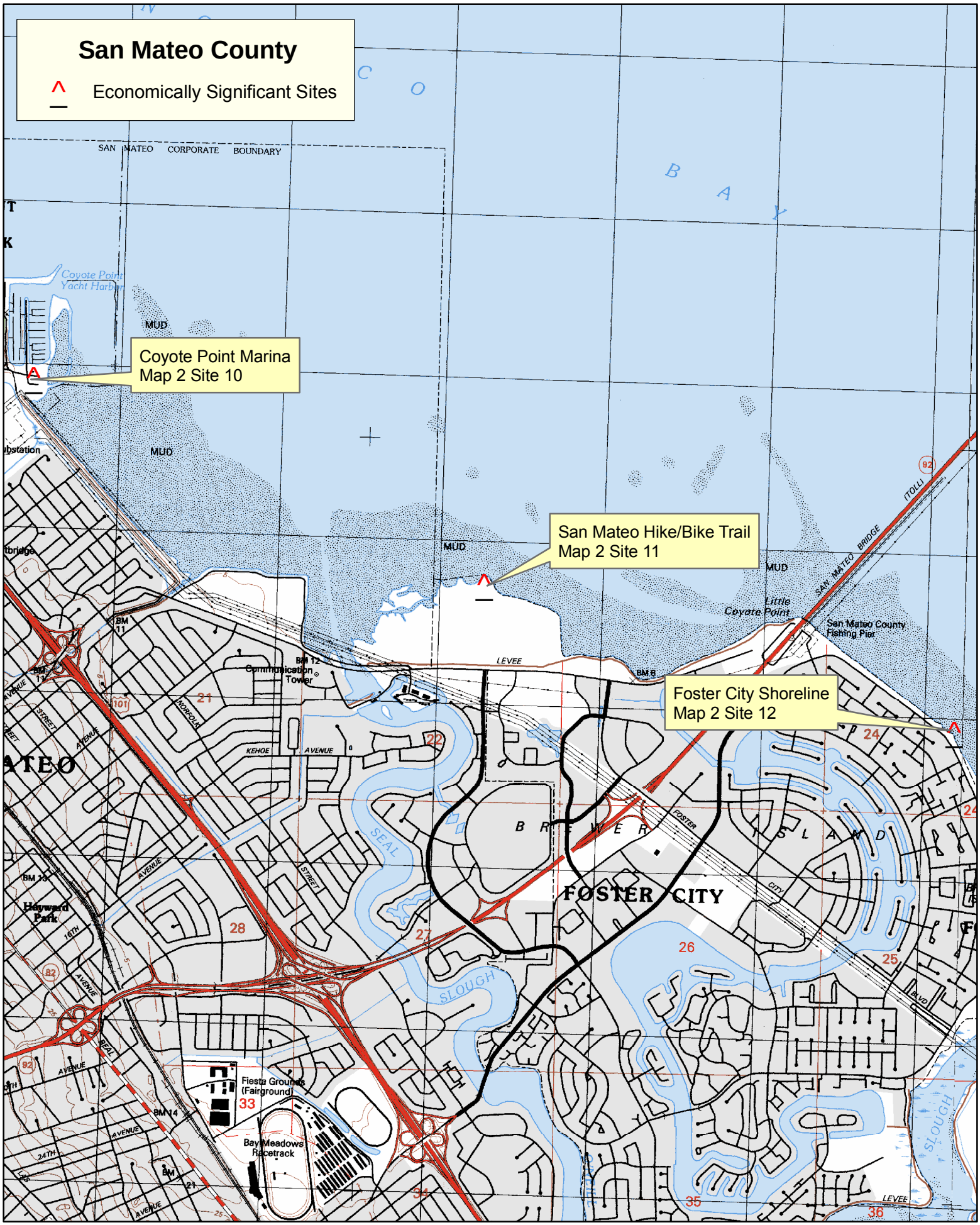


California Department of Fish and Game
Office of Spill Prevention and Response
San Francisco County Layout 007

California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 006

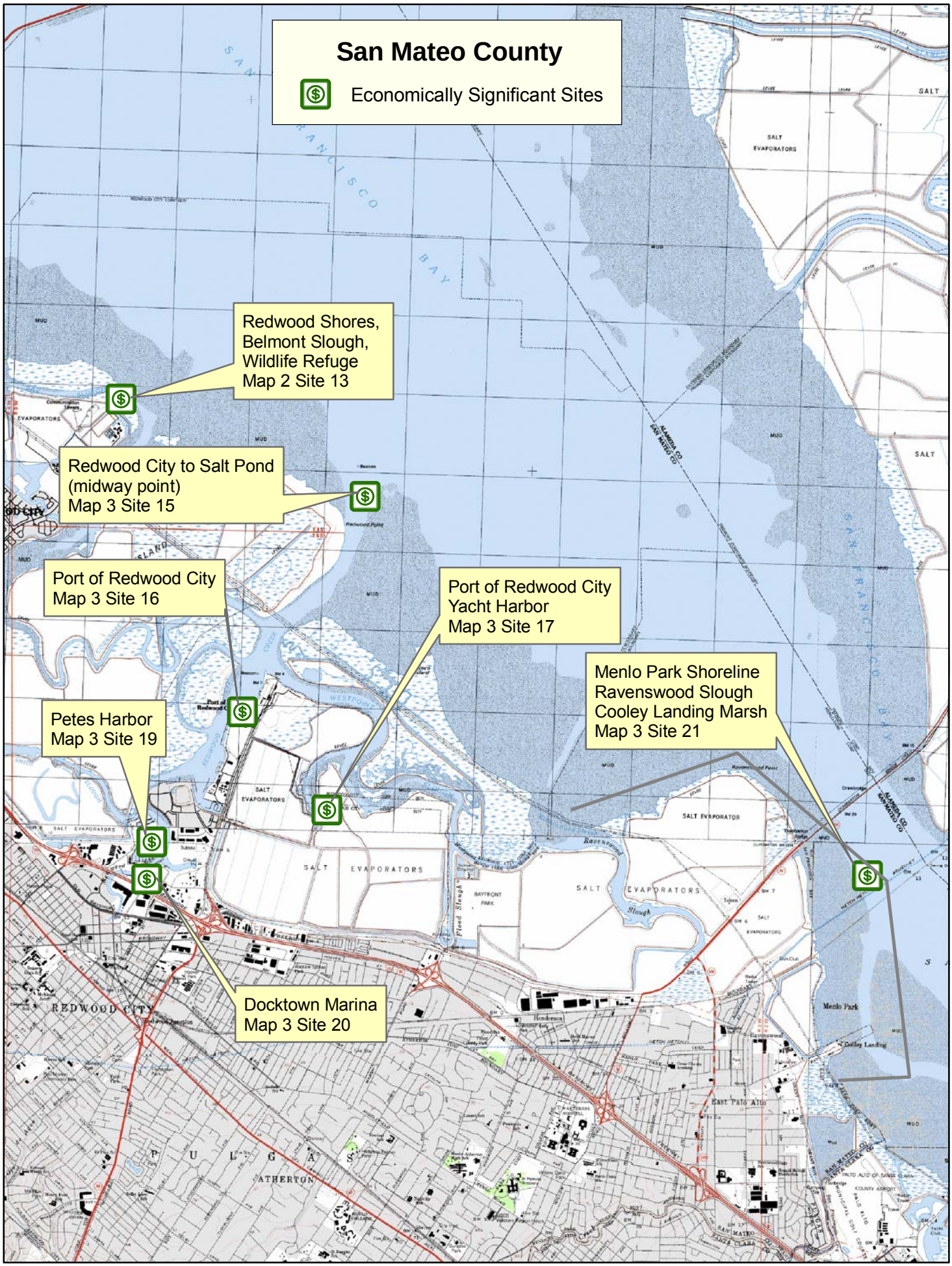


California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 007

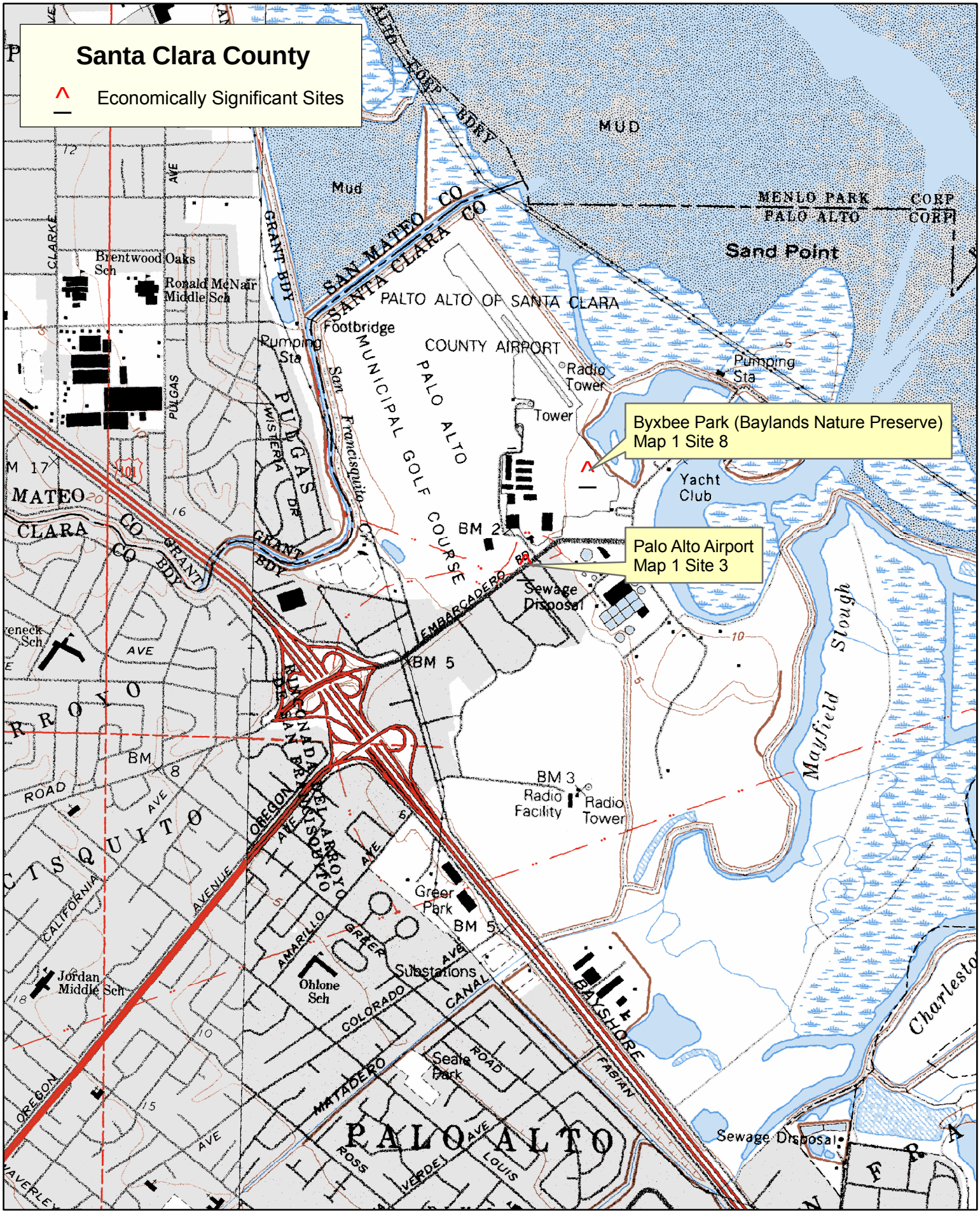


0.5 0.25 0 0.5 Miles

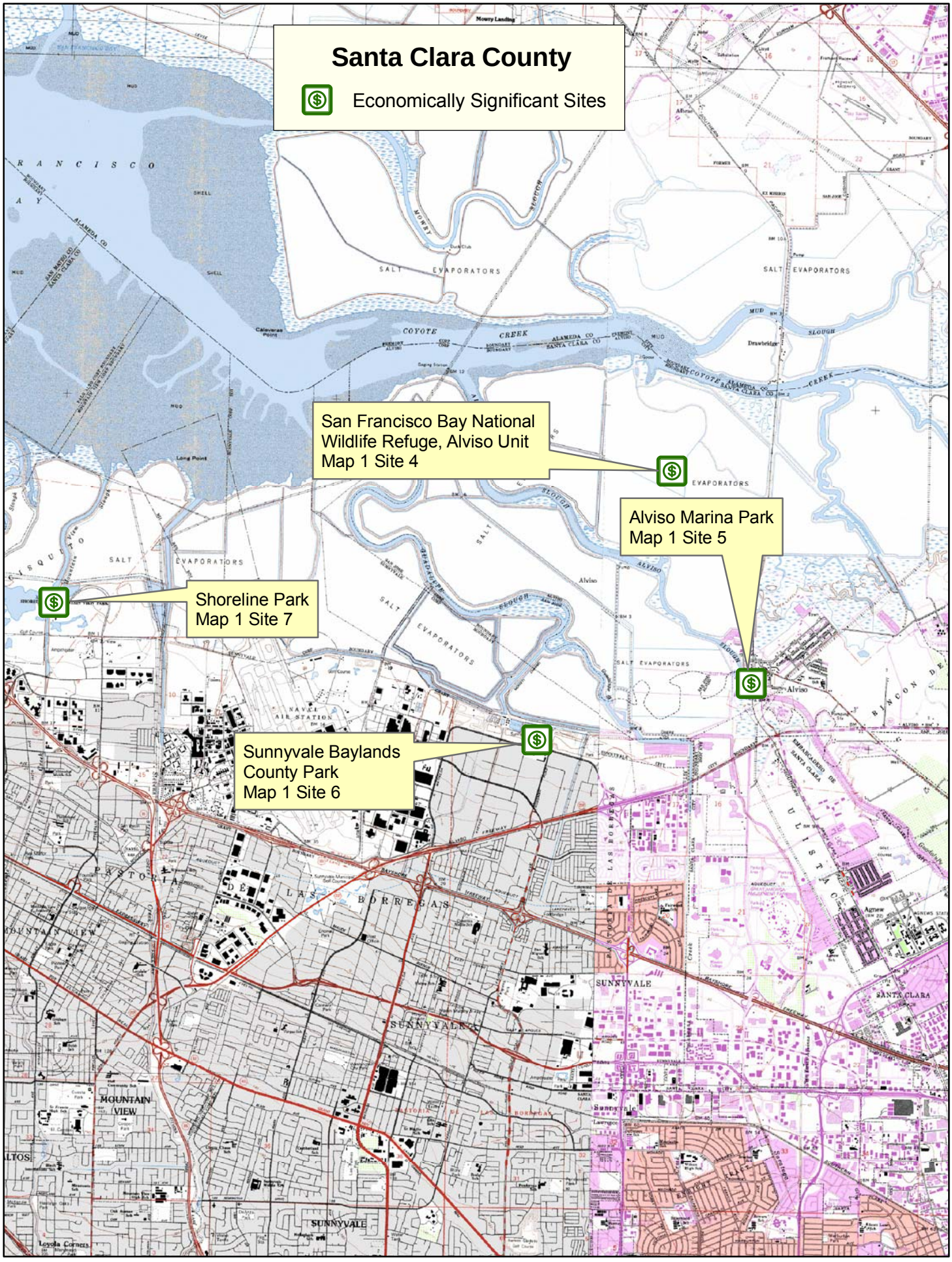
California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 008



California Department of Fish and Game
Office of Spill Prevention and Response
San Mateo County Layout 009



California Department of Fish and Game
Office of Spill Prevention and Response
Santa Clara County Layout 001



California Department of Fish and Game
Office of Spill Prevention and Response
Santa Clara County Layout 002

9843.4 Shoreline Operational Divisions

Shoreline Operational Divisions are presented in the ACP as front-loaded information to assist in rapid response planning to provide for quickly organized operational objectives and assignments along affected shorelines. The operational divisions have been developed in conjunction with the US Coast Guard, California Fish and Game OSPR, and various Oil Spill Response Organizations. Experience has demonstrated that in the earliest stages of spill response having organizational issues such as this prepared in advance is very useful to the response team.

The shoreline operational divisions are organized and named according to County boundaries. Within county domains, divisions are boundaries are guided by logical geo-political features such as coastal physical characteristics and land ownership/management issues, shoreline cleanup logistical considerations, and manageable sized coastline segments (generally not longer than about ten miles although some variation occurs.) Logistics, access, and manageability were driving considerations in this effort, particularly as it relates to types of cleanup operations required and problems likely to be present.

In ACP areas having more than one county, Shoreline Operational Divisions will utilize county codes followed by a single alpha character (A to Z). Shoreline operational divisions are labeled from north to south in each county. For example, the north-most operational division in Los Angles County is “LA-A.” In large bays (i.e. San Diego), the labeling will progress in a clockwise direction to accommodate changing coastline angles. Divisions can be easily subdivided (as necessary) by the Operations Section management to provide for appropriate work assignment effort.

Double digit alpha characters (AA to ZZ) will be used for all offshore operational areas and any other special operational areas needed during response.

9843.4 Shoreline Operational Divisions for GRA 3, South Bay